

# *Planning Your Family*

*The Complete Guide to  
Contraception and Fertility*

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WITH WINFIELD BEST AND FREDERICK S. JAFFE

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A newly revised and greatly expanded edition of *The  
Complete Book of Birth Control*

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*To the memory of Abraham Stone*



# Table of Contents

## INTRODUCTION

ix

## PART 1 BIRTH CONTROL

ONE	<i>Birth Control and the Sexual Revolution</i>	3
TWO	<i>RX for Birth Control</i>	14
THREE	<i>How Pregnancy Begins</i>	28
FOUR	<i>Medical Birth Control Methods</i>	38
FIVE	<i>The "Pill"</i>	67
SIX	<i>The Rhythm Method</i>	78
SEVEN	<i>Folk Methods</i>	86
EIGHT	<i>Which Method for You?</i>	93
NINE	<i>How to Succeed in Family Planning</i>	106
TEN	<i>The Man's Stake in Birth Control</i>	121
ELEVEN	<i>What Birth Control Is—and Isn't</i>	129
TWELVE	<i>What the Churches Say About Family Planning</i>	134

## PART 2 FERTILITY CONTROL BY SURGICAL METHODS

THIRTEEN	<i>The Permanent Prevention of Conception</i>	149
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FOURTEEN	<i>Sterilization of the Woman</i>	165
FIFTEEN	<i>Sterilization of the Man</i>	174
SIXTEEN	<i>Abortion</i>	180

## PART 3 TO THOSE DENIED A CHILD

SEVENTEEN	<i>The Treatment of Infertility</i>	213
EIGHTEEN	<i>Infertility in the Husband</i>	226
NINETEEN	<i>Infertility in the Wife</i>	237
TWENTY	<i>Artificial Insemination: History and Practice</i>	251
TWENTY-ONE	<i>Artificial Insemination: Religious and Legal Status</i>	265
TWENTY-TWO	<i>Postscript</i>	276
APPENDIX A	<i>Planned Parenthood Centers in the United States</i>	278
APPENDIX B	<i>List of Contraceptive Products</i>	296
APPENDIX C	<i>For Further Reading</i>	304
APPENDIX D	<i>Family Planning Agencies Around the World</i>	305
INDEX		319

## *Introduction*

IN THE HISTORY of fertility control in America, one incident has become almost legendary.

During the summer of 1912, a young nurse was called to a tenement flat on New York's sweltering lower East Side to treat Sadie Sachs, a mother of three who had tried to perform an abortion on herself. The case was little different from many other attempted abortions the nurse had seen; when she and the doctor were summoned by the terror-stricken husband, Jake, Mrs. Sachs was unconscious and blood poisoning had set in.

For three weeks the doctor and nurse toiled to save the woman's life. Sadie Sachs slowly responded to treatment and regained her strength. As he gave her a final checkup, the doctor warned Sadie, simply and directly, that another abortion would kill her.

"I know, I know," she whimpered. "What can I do to prevent another baby?"

Gruffly, as he left the apartment, the doctor replied:

"You can't have your cake and eat it too, young woman. There's only one way. Tell Jake to sleep on the roof."

The doctor's crude "joke" left Mrs. Sachs crying—and the young nurse in a rage. The nurse's name was Margaret Sanger, and it was this incident, more than any other grim

scene of poverty or death she had witnessed, that set Mrs. Sanger on her life's work for birth control.

Today men like Jake Sachs no longer have to "sleep on the roof," nor is it necessary for any doctor, whether in a Park Avenue office or a Florida migrant camp, to tell a patient that her life depends on breaking up her marriage bed.

Today millions of American couples have learned how to have the number of children they want, when they want them—and how birth control makes it possible for them to enjoy both improved health and marital happiness.

This remarkable change in American life has not come quickly or easily. It has taken nearly half a century of persistent effort. And even today, there still remain men and women who are blocked by fear, timidity, or lack of information from learning how birth control can safely and reliably postpone or prevent pregnancy, or how other modern medical techniques can enable them to achieve the fertility which heretofore has been lacking in their marriage.

This book is designed to provide the facts about fertility control, the negative and the positive, simply and concisely. It is written so that husbands and wives can learn the techniques modern medicine has developed in order to permit each pregnancy to be a voluntary, positive act of choice in the best interests of health and happiness.

The advance in fertility control practice in recent decades is just part of the almost unbelievable progress in medical science. When I entered medical school about forty-five years ago, eight or nine babies out of every hundred died before they were a year old. Today only *one-third* as many infants die. In my medical school days, one

American woman died out of every 140 who gave birth to a live child. Today the maternal death rate has been cut to just *one-twentieth* of that figure.

Meanwhile we have conquered diseases that once snuffed out hundreds of thousands of lives; we have learned health habits that make our lives not only longer but also healthier and much more useful. And we have made great strides also in fertility control: the prevention of conception through contraception, called birth control, and through the surgical techniques of sterilization—and strides as well in the initiation of pregnancy through the treatment of infertility.

I have witnessed this change personally, and it has been my privilege to contribute to it in a small way. My own interest in conception control was a natural response to experiences in hospital wards, where I saw many women like Sadie Sachs. One case I remember all too vividly, when I was an intern at Baltimore's Johns Hopkins Hospital. It was the first time I saw a woman die.

The patient was a pretty young woman named Knight. She had been distressed by her latest pregnancy and had gone to an abortionist; he botched the operation. When Mrs. Knight was brought to the hospital, she was hemorrhaging profusely and was pleading incessantly for life. Many people slide off into death gradually or die so acutely that they are not aware of what is happening. Not so with Mrs. Knight. She remained conscious till the end and tried to hold onto the thread of life as if it were a rope. In her anguish she cried out for me to save her. But there was nothing I could do.

Incidents like this could not help but impress a young physician with the desperate risks that overburdened

mothers were willing to take to end unwanted pregnancies. I was equally moved by the terrible, really immoral, senselessness of it all. The destruction caused by unwanted pregnancies was equal to the great epidemics—destruction not only of life but of married love and harmony as well. And it was so unnecessary; even in those days, doctors had some knowledge of birth control. But legal restrictions and social taboos prevented most physicians from sharing what little they knew with wives like Sadie Sachs and Mrs. Knight. So the only recourse millions of women had was the illegal abortionist; contraception remained largely the property of the well-to-do.

I joined the birth control movement three and a half decades ago in my native city of Baltimore and have continued my connection with it more recently in New York. I have been in charge of three major centers of contraceptive research and testing—first at Baltimore's Sinai Hospital and later at Mount Sinai Hospital and the Margaret Sanger Research Bureau in New York. In 1962, I resigned my happy post at the Mount Sinai Hospital, as Chief of Obstetrics and Gynecology, so that I could assume full-time leadership of America's family planning organization as President of the Planned Parenthood Federation of America. For me this is one of the most important socio-medical tasks facing my generation.

In these thirty-five years, birth control in America has graduated from a practice of the favored few to an effective medical procedure which has helped couples in all social and economic groups to enjoy a better life. Today birth control is prescribed not only by private physicians but also by doctors in hundreds of Planned Parenthood centers, hospitals, and health departments. Public infor-



mation about it is more plentiful than ever before. There has been considerable progress toward the goal of making birth control universally available.

Yet the job of democratizing this aspect of medical care is far from complete. Birth control service is still prohibited in many hospitals and health departments—particularly among tax-supported facilities on which millions of families depend for medical care. Even today, a kind of stigma still clings to birth control which makes many men and women feel embarrassed or guilty. On the one hand, it is made to seem indecent to merely inquire about the subject—even to ask a physician. On the other hand, birth control is depicted as so complicated that its effective use can be accomplished only with a kind of grim determination and ingenuity.

Of course these attitudes are nonsense; as a physician, I deplore them. Birth control is no more indecent than any other routine medical matter. A woman should feel no more embarrassed about asking her physician for a contraceptive than for a cough remedy. The facts about conception control are part of the fund of knowledge man has acquired over countless centuries of studying himself and the world around him. Use of these facts as an aid to family health and well-being is no more unnatural than the use of other medical knowledge for the same ends.

Nor must one have a "higher education" to practice birth control effectively. If you have heard gossip which makes you doubt that you can master the techniques of contraception, forget it. Scores of millions of men and women have succeeded in family planning and there is not the slightest reason why you cannot also. Safe control of conception is neither difficult nor complicated. It *does*

require knowledge and it is our hope that this book will help provide it.

We shall describe methods of contraception which permit full marital pleasure between husband and wife. I am sure that among the many techniques presented there will be one—or several—suited for your needs, your way of life, and your religious convictions.

We shall also describe the techniques of sterilization, which is the permanent control of fertility by surgical means. Since abortion is a widely prevalent medical and social problem, we shall present the key facts about it which husbands and wives should know. And, finally, we shall deal with the remarkable advances medicine has made in helping childless couples to have wanted children.

You are privileged to live at a time when the practice of birth control for family planning is recognized by almost all Americans as a personal right and when true planned parenthood is possible for all. Not only is there available a variety of contraceptives which are useful and reliable, but science is developing new and even better methods.

The result of all this is to place in your hands a wonderful opportunity to make each of your children a truly wanted child, and to build a satisfying sexual relationship with your spouse free from fear of unwanted pregnancy. This knowledge can make your life healthier and happier. It can enable you to be a better parent because it makes parenthood a voluntary matter—not a penalty upon the sexual relationship. It permits couples to live together with dignity and joy, with pleasure and responsibility.

This is the promise that modern birth control holds.

# *Planning Your Family*

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PART *1*

*Birth Control*



## CHAPTER ONE

### *Birth Control and the Sexual Revolution*

TODAY in the United States, almost all fertile married couples practice birth control in some form.

Just a few decades ago, this was not the case.

In the summer of 1912, when the doctor was advising Jake Sachs to "sleep on the roof" in order to save his wife from the grim sequence of another pregnancy, another abortion and probable death, I was a boy of fourteen in Baltimore. But it wasn't difficult for even a youngster to sense a strange paradox: the kids from the better part of town usually had only one or two brothers or sisters, while the poorer children ordinarily came from large families.

It was fashionable to attribute these striking differences in family size to the presence or absence of "moral fiber." Couples on the wrong side of the tracks, it was said, had big families because they were morally "loose" and engaged in a prodigious amount of sexual activity with obvious consequences.

We know now, of course, as a result of the research of Kinsey and others, that sexual behavior has very little to do with wealth or social class. These scientific studies show that American women in lower educational groups do not have intercourse any more often than more highly educated women.

The truth of the matter is that the differences in family size, which I noticed as a youngster, had to do mostly with

birth control: The more fortunate people practiced it effectively, in some form; the less fortunate did not.

In the last half-century, this has changed radically. Today families in all walks of life and of every religious and national background practice some form of birth control with varying degrees of success—to limit family size, to space the arrival of their children, and to enjoy a freer and more harmonious sexual relationship within marriage.

In a Gallup poll released in January, 1965, 81 percent of Americans favored giving contraception to any who desired it; 78 percent of Catholics polled shared this view. The extent of contraceptive practice among American families has been documented in a number of important studies, the most comprehensive of which is known as the "GAF Study" which means "Growth of American Families." \* It involved extensive interviews in 1955 with a nationwide sample of more than 2,700 white married women of childbearing age. The group was selected to represent a cross section of American wives between the ages of eighteen and forty. A new study was made in 1960 with a larger sample which included Negro wives.

The 1955 study revealed that seventy out of every hundred couples had taken some steps to prevent or postpone pregnancy, and that another nine planned to do so. This latter group included many couples who were waiting until they had one or more children before beginning to use contraception. Results of the 1960 study, soon to be published, disclose that in five short years, the proportion of couples already practicing birth control has increased to eighty-one out of one hundred.

\* R. Freedman, P. Whelpton, and A. Campbell, *Family Planning, Sterility and Population Growth*, McGraw-Hill, New York.



When we do not count couples with known infertility problems—that is, those who are unable to have children or who have experienced difficulty in conceiving, and therefore have had no reason to practice contraception anyway—the percentage of Americans using birth control is even higher. Excluding this group, eighty-nine out of every hundred couples covered in the GAF study, and ninety-three out of one hundred couples married fifteen years or more, had used some kind of birth control. The effect of religious beliefs on birth control practice was significant, but not as substantial as one might expect. Among all Roman Catholic wives, 70 percent reported use of birth control in . Considering only those Catholics whose fertility was unimpaired, the figure rose to 80 percent. Thus it appears that Roman Catholics respond only a little less readily than other Americans in general to the concept of controlling family size.

Jewish couples most frequently use contraception. Ninety-five percent of all Jewish couples practice birth control. Among Protestants, the proportions were 84 percent of all couples and 92 percent of fully fertile couples. For all religious groups, it is apparent that the use of birth control increases after a couple has demonstrated their fertility by the production of children.

It is clear also that the level of education—especially that of the wife—and the level of family income, have more influence than religion on birth control practice. Among wives who did not go beyond grade school, 66 percent had practiced birth control. Among those who were high school graduates, 83 percent used contraceptives, while the percentage rose to 88 for college graduates.

As family income rises, the proportion of families prac-

ticing birth control also increases. About seven out of ten couples whose income was under \$3,000 a year (\$57 a week or less) used birth control. But among couples with an income of \$6,000 or more annually, 85 percent of all couples—and 94 percent of fully fertile couples—reported contraceptive use.

These major findings of the GAF study, revealing the widespread practice of birth control among American families, have been confirmed to a large extent by another investigation conducted in by scientists at the Office of Population Research at Princeton University. In this study,\* nearly 1,200 couples living in the nation's seven largest metropolitan areas were interviewed about six months after the birth of their second child. The results show that eighty-three out of every hundred couples began to use birth control before their second pregnancy. This agrees with the GAF study in demonstrating that virtually all fertile American couples practice some form of conception control at some time in their lives. As one of my scientific friends so succinctly puts it, "America is a nation of contraceptors."

In addition to determining the extent of birth control practice, the GAF and Princeton studies, plus other investigations, have shown that most Americans use one or more of these birth control methods: condom, diaphragm, rhythm, douche, and *coitus interruptus* (interruption of the sex act before the male ejaculates—commonly called withdrawal). Incidentally, I define birth control to include *all* these methods, plus a variety of other temporary meas-

ures to prevent conception. Aside from the five methods listed, other birth control techniques coming into more widespread use include the new birth control pills, the cream-alone or gel-alone method, and tablets placed in the vagina. But these products were not used widely enough several years ago to be reflected in the studies.

The condom, or "rubber," is the most popular birth control device in America. According to the GAF study, 26 percent of those practicing birth control reported using the condom as their current or last technique, 24 percent the diaphragm, and 21 percent the rhythm method. Douche was employed as a means of birth control by 7 percent of users and withdrawal by another 7 percent. Five percent of users said they were currently using two methods—one part of the time and another the rest of the time. Remember these are figures. I feel quite sure a method popularity contest would give somewhat different standings and ratings in , particularly since the new oral contraceptives have just been introduced in the last three years.

Many couples shift from one method to another over a period of months or years because their likes and dislikes change, or on the advice of a physician, or because they are seeking a method that is more acceptable and effective for them.

The factors of education, income, and religion influence not only whether a couple uses birth control at all, but also their choice of method. In the study, Protestant couples with grade school education reported use of condoms most frequently, with the douche, rhythm, and diaphragm following in order of popularity. College-educated Protestants on the other hand were found to favor methods in

this order: diaphragm, condom, rhythm, douche. Higher income had generally the same effect as higher education on the choice of particular techniques.

For most Roman Catholics, religion appears to be the predominant factor in the choice of a method: more Roman Catholics—53 percent—were using rhythm, the only method of conception control approved by the Catholic Church, than any other technique. While 47 percent of Catholic birth control users had used only the rhythm method, more than 50 percent had used some other technique.

It is noteworthy that college-educated Catholics were the group most loyal to the rhythm method, with those attending Catholic colleges more loyal than Catholics attending secular colleges. But some Catholics at *all* income and education levels used methods other than rhythm. The largest proportion of Catholics using condom and diaphragm were in the grade and high school education categories. In cities, nearly half the Catholics practicing birth control said they are using—or had used—medical methods.

Today, the differences in contraceptive use between people in cities and people in farm or country areas do not appear to be so great as they once were. Birth control users in large cities, however, tend to use medical methods *more* and rhythm and withdrawal *less* than do birth control users in rural areas.

Employment of the wife also influences the choice of a birth control method. Protestant couples in which the wife is or has been employed since marriage more often chose diaphragm or condom as their technique, and few of them later changed to other methods. Catholic wives employed for long periods used the medical methods much more

frequently than Catholic wives who did not have jobs outside the home.

Latest study results indicate that a smaller proportion of Negroes and other nonwhites in the United States use birth control of any kind, and that the diaphragm is less popular among them than other techniques. However, as increasing numbers of Negro families secure better education and jobs, they appear to be utilizing birth control to a much greater extent.

While I shall discuss reliability of particular contraceptive methods in another chapter, a few general comments are appropriate here about family size and its relation to birth control success and failure. Numerous surveys have shown that all kinds of Americans are coming to share very similar ideas about the number of children they want. Only a small minority want large families, throughout the United States almost all married couples say they prefer at least two but not more than four children.

While birth control has enabled millions of couples to limit their children to the desired number, other millions, however, still have more than they had wanted. A national market research organization has reported that 36 percent of the youngest children born in United States families were unplanned. Pregnancies occur frequently, of course, among couples who do not use birth control at all. But current studies confirm that a factor in many unplanned pregnancies is failure of birth control to prevent conception. One purpose of this book is to help you avoid such failures. Despite the imperfections of all current methods, birth control succeeds much more often than it fails, which is one reason for the rapid growth of birth control practice in the last few decades.

Is the general effectiveness of birth control the *sole* reason for its increased use? I don't think so; I believe the changes in birth control practice are part and parcel of the changes we have witnessed in attitudes toward sex, a process which has aptly been called "the sexual revolution" in twentieth-century Europe and America.

There was a time, not too long ago, when sex satisfaction was popularly thought to be a one-sided thing—almost a masculine monopoly. Intercourse was still considered a necessary evil at best, indulged in by men as part of their "baser nature," and endured by women because they could hardly avoid it. For a woman to enjoy sex was regarded as almost sinful. Some women patients even of my own generation have confided that they felt ashamed to discover they were beginning to enjoy the sexual side of marriage; needless to say, this reaction made any such pleasure short-lived.

Today we know that a woman has as much right to enjoy sex with her husband as he has to enjoy it with her. Far from remaining merely submissive to her husband's sexual needs, as was the wifely role in grandmother's day, she can be active, responsive, and imaginative in her sex relationship. A healthy new attitude toward sex satisfaction has emerged, stimulated by the growth of psychology and psychiatry, and by related developments in medicine and religion.

The concept that "sex is sin" began to wane early in the 1900's. Before that, in Christian and Jewish culture, it had a long and weighty history. The belief was based, to a considerable degree, on the ancient doctrine of "the perversity of the flesh." The central theme of this credo was the morbid notion that man's whole physical being was evil,

and that only his soul could be pure. It viewed sexual activity, therefore, as a vile form of "giving in to the flesh." Sex was the key mechanism by which "original sin" was transmitted from generation to generation.

Though probably few people were aware of the intricate background of this belief, it formed a key part of the "Victorian morality" of the nineteenth century. A gradual rebellion began against this prudery, as people everywhere found it increasingly difficult to live within such narrow and artificial limits of behavior. Medical progress was demonstrating, also, that the human body—man's "physical self"—is certainly the most marvelous and exciting creation of all time.

Meanwhile, the work of men like Sigmund Freud, the founder of psychoanalysis, and other psychiatrists, began to open up an entirely new vista of man's knowledge of himself. Through these new branches of social and medical science, we learned that man's sexual needs and energies arise from the very wellsprings of his being. If the needs are met and the energies properly channeled, both the individual and society may benefit. But if the needs are ignored and the energies misdirected, personality may be stunted. As a result, the individual may become maladjusted and, in extreme cases, even dangerous to society.

Paralleling these developments in science, theologians on both sides of the Atlantic have been engaged in an exhaustive review of Christian and Hebraic doctrine in quest of related truths. Of course, much wider areas of human existence are being explored than merely the sexual relationship, but the meaning of sex and the purposes of marriage have been evaluated anew, with the aid of Biblical, Talmudic, and other religious texts.

The aspects of this relating explicitly to birth control will be dealt with in a later chapter. In essence, leading theologians have concluded that a higher morality—and one much more helpful to responsible men and women in their daily lives—is possible when sex is dealt with primarily in terms of its potential as a stabilizing, elevating force in marriage.

Thus the rise of birth control developed side by side with these broad changes in sexual attitudes and practice. As long as sex remained in the dark shadows of shame and guilt, men and women found it difficult to view it in the realistic physical terms necessary for effective use of contraception. But once these warped emotional influences were lessened, individuals could find and utilize the facts about sex more easily, and husbands and wives could discuss and practice birth control more readily.

At the same time, contraception itself has helped make our new sex knowledge and values much more useful and enjoyable. It is obvious that sex satisfaction can be achieved intermittently at best, and “on borrowed time” at that, if the consequence is unwanted pregnancy. When fears of unwanted pregnancy are removed, however, more complete and responsible sex fulfillment between partners in marriage can be achieved and sustained. Then intercourse can become a glowing, permanent element in marital happiness and family life.

Unquestionably, a good sexual union can enhance a marriage; it can endow a man and a woman, and their partnership in wedlock, with a special strength and radiance. To be sure, sex is just one part of married love, of the total relationship between husband and wife. And birth



control is simply a means to perfect and sometimes to preserve this relationship.

So marriage is certainly bigger than sex, and sex is bigger than birth control. But the parts make up the whole. And welding the parts together is the career of each one of us in matrimony. A career requires learning—the fusion of knowledge and experience. And learning starts with seeking out the simplest facts.

Despite the widespread practice of birth control in America, however, it is appalling how many brides and grooms, and even couples married for several years, do not know enough about the different techniques of birth control or about their own bodies and emotions to use birth control effectively, much less to achieve fairly regular sexual enjoyment. Too many husbands and wives desperately seek out these facts only after they have more children than they want and after their sexual relationship has already been damaged by fear of further pregnancies.

This lack of biological and psychological knowledge is present in all educational groups—college graduates as well as those who never finished grade school. Many men and women are also ignorant of the extent to which their churches and other authorities agree that family planning should not merely be permitted, but encouraged.

To reap the richest rewards from the physical side of marriage, therefore, it is important that husbands and wives *help each other to learn*—by sharing what they do know about these intimate matters and, together, seeking the facts about what they do not know.

Let us pursue this learning process by examining the facts about *when* American husbands and wives practice birth control in their marriages, and *why*.

*RX for Birth Control*

IN THE PAST GENERATION, the practice of birth control has not only become more widespread, but the way it fits into the pattern of American family life also has changed considerably. I had a pleasant experience a few months before I left the Mount Sinai Hospital that brought these changes into focus.

A woman in her late forties stopped in my office. "You won't remember me," she said, "but I was a patient of yours in Baltimore many years ago." I confessed my poor memory. "Well, I had been married five years and had four children." She sighed and smiled. "It finally worked out all right, thanks to you; now do you remember?"

Gradually then, as we talked, her case history came back to me. She had been an acute diabetic at the time of her fifth delivery; apparently she had no knowledge of contraception when I first met her in the obstetrical ward. But she had been told that her life would be endangered by another pregnancy. Added to her precarious physical condition was a growing anxiety neurosis focused mainly on fears for her own health and concern for her youngsters if she should die.

Of course I prescribed contraception. She returned several annual checkups and had no more pregnancies while I knew her. Since then, I gathered, she too had moved to New York. "I discovered you were here at Mount Sinai when I came to visit a friend," she said.

Then she added, "Doctor, would you be able to see my daughter? She plans to be married soon. I want you to talk to her about birth control *before* she's married, so that she doesn't go through what I did."

She asked if I still saw contraceptive patients regularly. I told her I was very much interested and active in the field, but that the press of other medical responsibilities left me little time for private practice. However, I assured her I would make a special point of seeing her daughter. I subsequently had a consultation with her and the young man she was to marry.

It is always a bit of a shock to be reminded so vividly that time marches on. But I must say that when women who were former patients send their daughters for premarital consultation, I react quite differently. For, in the mother's day, it was likely that I prescribed birth control because she suffered from the physical complications of having too many children too quickly. Usually the daughters now come to me because they want to use birth control to *plan* their families in advance in order to avoid such medical problems. This is tangible and heartwarming evidence of progress.

Many developments have contributed in recent years to instill the concept of family planning deeply in the American way of life. In the sixties, even more than in earlier decades, physicians recognize that child spacing is good medical practice, and that medical indications for contraception include factors other than serious illness. As indicated in the last chapter, religious and social attitudes toward sex and birth control have changed markedly. As a result, birth control is prescribed by doctors and practiced in the United States today mainly to achieve these

four goals: better maternal health, improved child care, financial stability, and family happiness.

A couple may practice birth control for one reason during one phase of life, and for quite different reasons later on. Let us see how these reasons—medically called “indications”—function singly or in combination.

*Newlyweds use birth control to postpone the arrival of a child until they are properly established.* About half of the contraceptive users in the United States begin the use of birth control before their first pregnancy. Undoubtedly this is the result of the trend toward earlier marriages: The average age at marriage has decreased since the turn of the century from twenty-two to twenty for women and from twenty-six to twenty-three for men. Today, more girls marry at eighteen than any other age, and more men at twenty-one. These young couples use birth control during their early years together to help them make the psychological and financial adjustments which are so important in marriage. My former patient's daughter and her husband-to-be, for example, told me they wanted to wait two years before having a baby. They wanted that time for themselves—to establish the foundation of a lasting marriage.

During their period of mutual adjustment, a young man and wife should not have to worry about an immediate pregnancy before they learn each other's needs and moods and habits in a way that only living together can teach them. The thrilling anticipation of their firstborn should not be blunted by forced competition with this process of sexual and domestic adjustment. Before the bride and groom share themselves with a new family member, they should have ample opportunity to share themselves solely

with each other. Then, when a child is planned to arrive sometime later, they will be secure with each other and ready to extend their love unstintingly toward the baby.

Many newlyweds also face problems of money, employment, continuation of schooling, or temporary family disruption because of military service. Any of these or other good reasons may cause them to postpone having babies. In order to set up housekeeping in the way they want it for themselves, and frequently to provide income so that they need not live with parents or in-laws, many newlyweds agree that the wife as well as the husband should be employed outside the home during the first phase of marriage. Several decades ago, the typical American marriage started with the bride withdrawing from any paying job or "career" she might have had and demurely hanging curtains—and shortly thereafter, diapers. Today, the popular pattern is for the new husband and wife to hang the curtains together—after they get home from work—and to aim toward a more secure financial situation before the diaper phase is launched.

Newly married couples also use this "teammates" approach to give the husband a better opportunity for job advancement. I know numerous young wives who are the principal breadwinners while their husbands are engaged in some special training or schooling which temporarily prevents them from holding remunerative jobs. Cases in point are the married young people with whom I have had particularly close contact all my adult life: medical students, interns, and residents. The wife as the willing breadwinner, or both members of the couple being fully occupied in full-time study, is becoming ever more common with the increasing number of skilled occupations

and professions which require years of advanced training or education.

As an obstetrician, I feel I must inject at this point a strong warning: If childbearing is postponed for too long a period, the delay may hide a physical obstacle to having children which should have been treated as early as possible. Some years ago, I prescribed contraception as a routine matter for a young woman at the time of her marriage. I had known her and her family personally for years and was aware of her desire to have "lots of babies—when we are settled and ready." I told her, "Don't wait too long—no woman knows for sure that she can produce babies until she's had one." But evidently she did not take this seriously, and she and her husband found one reason after another why they weren't "quite ready" to start a family. First they quite responsibly sought to achieve a certain level of financial security before having children. Then they wanted to buy a house, "so we'll have a good place for a family"—again, a worthy objective. Then there were other things. At last, when she was more than thirty, they were "ready." After attempting for many months to conceive without success, the young lady came to me in panic. Examination disclosed that in the years since her marriage she had developed a tumor. To remove this growth we also had to remove her womb which, of course, made her permanently sterile.

Aside from such specific infertility problems, a woman's ability to have children normally wanes with age—at first very slightly. Many studies have shown that the decrease occurs appreciably in women after the age of thirty. Two studies, carried out among rural couples who did not use birth control, investigated the relationship between age of

the wife at the time of marriage and later involuntary childlessness. It was found that of wives who married before they were twenty, only 4 percent remained childless. Of those who married between the ages of twenty and twenty-four, 6 percent remained childless. And so it went, with the proportion of infertility continuing to rise with the age of the wife at marriage: twenty-five to twenty-nine years, 10 percent; thirty to thirty-four years, 16 percent; thirty-five to thirty-nine years, 31 percent; and forty to forty-five years, 69 percent. Another study analyzed the effect of the husband's age on his fertility. It showed that 75 percent of the husbands less than twenty-five years old were able to impregnate their wives in less than six months, while only 23 percent of the husbands aged forty and over accomplished this.

*Spacing pregnancies at desired intervals is another major reason for the practice of contraception in America today.* Not long ago a Pennsylvania woman wrote this letter to the Planned Parenthood Federation of America: "I just feel as though I wouldn't be able to take care of another baby too soon. I am so nervous from having my children so close together and caring for so many little ones at once, that I feel it isn't fair to the children, or my husband either, to go on this way. . . ."

The letter poignantly indicates the growing recognition that child spacing can aid not only maternal health but also human relationships within the family. In this case, of course, the Federation referred the woman—as it does thousands of others annually—to a Planned Parenthood center near her home for contraceptive help.

Fortunately, the physical hazards of having numerous babies in quick succession are not as common as they once

were, because of improved nutrition and general medical practice, as well as better obstetrical and postpartum care. But some dangers still exist. Nor is the mother the only one affected by rapid-fire childbearing: According to the United States Public Health Service, "the interval between births is a basic factor in the incidence of stillbirth." For these reasons, the distinguished New York Academy of Medicine recommended in 1946 that "child spacing should be recognized as a medical indication" for contraception.

Physicians therefore often advise couples to allow two or more years between pregnancies. More often, with or without medical guidance, couples link concern for the health of the mother with other factors in deciding to space the arrival of their children. Closely related considerations include child care and financial stability of the family. Several small children in close age sequence are simply too much for many mothers to give adequate attention to—or for fathers to provide adequate income for so quickly.

And it doesn't take a national study to discover that one of the most common—and sound—reasons for planning longer intervals between babies is plain *mother fatigue*. A young mother may be in good physical health, basically, but her cheerfulness and efficiency can be severely crippled if she has too many youngsters to cope with all at once. How many is "too many"? That depends, of course, on the individual family. I have seen mothers who seem quite able to manage without difficulty four children under the age of five (often, however, with a good deal of help from father or someone else). On the other hand, some mothers can be driven to near exhaustion and despair by two toddlers. A mother who finds herself in the latter situation ~~has no reason to~~ be ashamed. People just do not



all have the same kinds of strengths. But she certainly does have good reason to space her children far enough apart so that she can preserve her own energies and disposition and care for her family lovingly and well.

*Many of the same reasons which lead couples to space their pregnancies also cause them to limit family size.* Among married couples with any offspring at all, the usual number of children per completed United States family is 3.0. Consider this alongside the statistical possibility that a woman marrying at twenty who does nothing to prevent pregnancy can bear twelve or thirteen children. These figures show how vigorously Americans are curbing family size—primarily by birth control.

A good medical reason for family limitation is the rise in the risk of death for both mothers and infants after numerous pregnancies. The United States Department of Health, Education and Welfare reported in 1958 that the chances of stillbirth are almost twice as great for sixth children as for firstborn. There is a parallel, though not so steep, increase in maternal deaths when the number of pregnancies carried to nine months exceeds six to eight.

Decisions to limit family size for medical reasons alone, however, appear to be much less common than decisions which combine the medical with other factors. A young man married to one of my patients recently wrapped it up this way: "We have three youngsters now and they're enough—for us anyway. Nancy's health is fine and we want to keep it that way, so that she can enjoy the kids. Having another baby would prevent us from giving the ones we have enough care and attention. We're thinking about the financial side of it too—I know we couldn't expect to give four children the things they really need."

While I daresay a great many couples don't express their reasons for family planning quite that handily, many couples have a similar variety of reasons for limiting the number of their children.

Childbearing is also terminated to permit the mother to hold a paying job. The proportion of wives who are employed outside the home rose from 21 percent in 1947 to more than 30 percent in 1960. Meanwhile the postwar baby boom reached its peak. How did employment of wives and the birth rate increase at the same time? Part of the answer, of course, stems from the rising employment of women before they have children. Of at least equal importance is the increase of employment among women whose families are complete and whose youngest child has reached school age. This reflects the concentration of childbearing during the early years of marriage with the use of birth control during the later years.

The growth of family limitation in America, curiously, exists side by side with a strong tradition about the virtues and values of families with many children—the “cheaper by the dozen” philosophy. The tradition is kept honestly alive by the conspicuously large and responsible families in almost any American community—families we all respect, admire, and sometimes envy. There are indications, however, that the tradition is at least partially self-defeating. Sociologists have found that children raised in *large* families, when they grow up and marry, tend to have *small* families—in fact, smaller than average. This was revealed in a University of Pennsylvania study of 100 couples with a total of 879 offspring. Of the 529 children in this group who later married and produced families of their own, only 15—*less than 3 percent*—had six or more children!

The study also disclosed that the parents of these large families were often less than enthusiastic. While a slight majority of large-family fathers reportedly approved and were proud of their abundant paternity, almost as many merely accepted their large broods or indicated that they wished they were smaller. As for the mothers, less than a third were happy about having so many children, while a solid two-thirds majority was merely submissive or outright critical of their fertility.

The attitudes of the children themselves is even more noteworthy: Only 28 percent of these children, now grown, look back with approval on the size of their parents' families. Sixty percent were bluntly or politely critical. Another 11 percent merely accepted it.

Why is this so? The study showed, for one thing, that the older children in large broods—especially the oldest—are often given a great deal of work and responsibility as “deputy parents.” These eldest children, perhaps because of their abnormal burdens and resulting lack of freedom, tended to become unhappy and poorly adjusted.

Children raised in large families also recognize from experience how largeness itself may expose the family to misfortune. Back when America was mainly agricultural, many sons were needed to till the soil and numerous daughters had household labor value. The large-family tradition grew partly from this. But now, in the main, the reverse is true: In urban life, children are primarily consumers, not producers, and therefore are economic liabilities rather than assets. The large family has much less financial slack than smaller families, because a much higher proportion of its income goes for the bare essentials of food, clothing, and shelter. Unemployment, disability,

or death of the principal wage earner in a large family thus may be a devastating blow.

No one is more aware of these facts about large families than the children raised in them, and it is evident that this personal awareness is contributing not a little to the practice of contraception in the United States.

At this point, it may be appropriate to note that birth control is also used to produce *large families which are planned*. Not all large families are unplanned any more than all large families are full of unhappy, resentful people. In their summary remarks, the authors of the Pennsylvania study, Drs. James Bossard and Eleanor Boll, observe: "The term 'planned parenthood' has been used so largely to mean planning for a small family that it seems necessary to emphasize this other meaning of the planning process. A number of the large families contacted during the six-year period of this study may be said to be planned. . . ." The parents of some large families I know personally have practiced birth control not only to space the arrival of their children but also to limit their number. They wanted—and produced—six or seven youngsters.

Aside from the variety of reasons for child spacing and family limitation, there are several conditions which make it medically imperative that a woman not become pregnant. In the first place, *almost any serious illness makes it necessary to postpone pregnancy temporarily or to prevent it permanently*.

Perhaps the most common ailment incompatible with pregnancy is serious heart disease. Fortunately, improvements in therapy permit a woman with only minor or moderate cardiac impairment to have a normal sized family, as long as there are no other medical complications

and as long as her family care responsibilities are not too burdensome. But even in these cases medical vigilance is required. And in serious heart cases, physicians almost invariably advise either no pregnancies or at best a very limited number.

Lung disease—namely, tuberculosis—usually calls for postponement of pregnancy until the disease has been arrested and remains inactive for a period of at least two years. Physicians may determine if it has been arrested by X-ray examination of lung scars to see if they are completely healed, and by examination of sputum to see if any TB bacteria are present. Pregnancy among tuberculosis patients often results in active lung lesions becoming worse. New babies are extremely vulnerable to TB germs and may die if infected by tubercular mothers.

Advanced diabetes, if severe and chronic enough to be accompanied by damage to the arteries, may also require permanent prevention of conception. This was the case of my patient from Baltimore whom I mentioned earlier. In such situations—and with other diseases of similar severity—sterilization may sometimes be preferable to the practice of birth control.

Any cancerous condition involving the breasts or internal organs, and which has required surgery within the past three years, calls for pregnancy postponement, at least until recurrence of the cancer appears unlikely. Kidney disease which curtails the full and normal function of these organs is another reason for preventing pregnancy. Nervous disorders, Parkinson's disease, multiple sclerosis, and the like usually dictate sterilization.

Some inherited diseases require sterilization or strict use of contraception, either to protect the mother, prevent

the birth of hopelessly ill children, or both. An example of this is pseudohypertrophic muscular dystrophy. It directly attacks only male offspring though it is transmitted by the female. A special problem with this strange malady is that it is often impossible to predict which sons—if any—will be struck in any one generation. Those affected appear to be normal at birth, and may remain so for the first dozen years of life. But then they weaken and die before their mid-twenties. It is gratifying that such grave medical reasons for the use of fertility control involve fewer people today, by far, than thirty or forty years ago.

As our medical horizons have broadened, meanwhile, two long-range developments have figured in the use of birth control as a health measure by a much larger number of Americans. The first is the growth of *preventive medicine*—that is, the field of medical science devoted to *preventing* physical afflictions rather than *curing* them. This preventive concept parallels the shift in use of contraception from merely shutting off excessive childbearing to bona fide family planning—deciding beforehand how many children are wanted and having them on a schedule regulated by birth control.

The second long-range medical development which has gone hand in hand with the increasing use of birth control is the extension of knowledge and sensitivity about mental health. By giving married couples greater control over their family growth and greater security in their sexual relationship, birth control is of tremendous value in attaining a greater degree of emotional health and maturity.

These, then, are some of the many reasons why American husbands and wives practice birth control. How can

you best apply this “prescription” in your own marriage? The answer will depend, of course, on your own needs and desires and those of your spouse. Advice may usefully be sought on the indications for birth control, but in the long run, you will have to determine for yourselves how many children you want and when you want to have them—these are the key questions to be resolved in employing birth control for family limitation and child spacing.

In my own practice, I have found that the attitude and goals of most couples are sufficiently similar so that I routinely inquire if they want a birth control consultation in three specific medical situations:

1. At the premarital consultation.
2. At the postpartum examination six weeks after the birth of each baby.
3. At any other time during marriage when there is reason to believe another pregnancy would be dangerous to physical health or emotional well-being.

## CHAPTER THREE

### *How Pregnancy Begins*

NO ONE QUESTIONS the time-worn statement that "it takes two to make a baby." It is obvious and well understood. All adults and most adolescents know that pregnancy is the result of sexual intercourse between a man and a woman. Too frequently, however, that's all they know; there is great ignorance as to what actually occurs at the time of intercourse, and afterward, which brings a new life into being.

Such knowledge is fundamental to this book, since you cannot understand how the various methods of birth control function unless you have a fairly clear idea of the mechanisms involved in impregnation. Moreover, we have learned that your chances of practicing contraception successfully are directly related to the extent of your knowledge of both impregnation and birth control. It will be well worth our while, therefore, to pause here, before we describe the various methods of birth control, to explore the exact process by which babies are conceived.

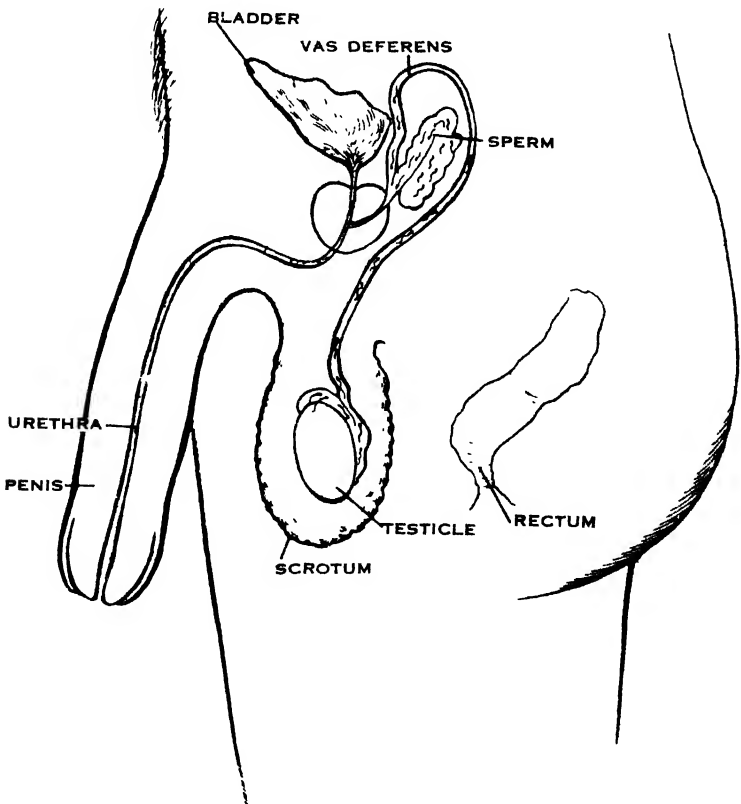
A new life begins when a special body cell of the female, called an ovum or egg, unites with a special body cell of the male, called a spermatozoon or sperm cell. This reaction between the two sex cells is termed fertilization. The real crux, therefore, is where and how the sperm and egg unite. It is, in many respects, the most exciting and wonderful process in nature.

A man's sperm cells are manufactured by the two tes-



ticles, each about the size of a plum, which are contained in his scrotum, a skin sac located between the thighs. From each testicle millions upon millions of these minute, tad-pole-like cells are propelled upward through a muscular tube, called the *vas deferens*. The two *vasa deferentia*, one from either side, join together in a single larger tube, the urethra, which passes through the penis, terminating at its end. Several glands, the biggest being the prostate, empty their secretions into the urethra during the process

1. Male Reproductive Organs (side view)



of ejaculation and mix with the sperm cells to form the man's semen. The urethra also conveys urine from the bladder, but during sexual excitement a valve shuts, temporarily making urination impossible.

When a man reaches his climax or orgasm, the muscles of his reproductive tract undergo a series of rhythmic contractions forcing sperm cells and secretions along the tubes until they are spurted or ejaculated from the end of his erect penis. The total amount of fluid ejaculated usually equals about a teaspoonful.

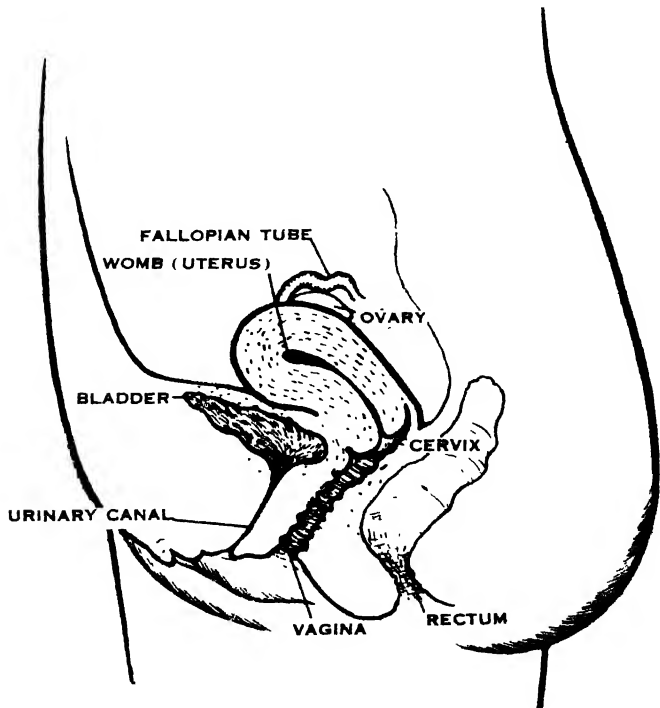
These are the basic processes which the man brings to the creation of a new life. They are relatively simple and easy to understand. The structure and functions of the woman's reproductive organs, on the other hand, are considerably more complex.

The vagina is the body cavity in the female adapted to receive the man's penis during intercourse, and to receive the semen following his orgasm. Above the vagina is the womb or uterus, a pear-shaped chamber in which the baby develops before birth. Lying deep inside the lowermost portion of a woman's abdomen are two ovaries, one to the right and one to the left of the womb. These are the glands that produce the tiny egg or ovum which must unite with a man's sperm to conceive a baby. All of a woman's eggs, or ova, are present in undeveloped form inside her ovaries when she is born. None of the eggs is fully developed until the girl reaches sexual maturity, at the age of twelve to fifteen. From that time on until menopause, which usually begins when a woman is in her forties, one egg a month, ordinarily, becomes fully "ripe" and is released by one of her ovaries. The two ovaries divide this monthly assignment according to no

apparent plan; sometimes they alternate, sometimes one of the ovaries will produce the egg for several months in succession.

The monthly discharge of the egg, called ovulation, occurs about midway through the menstrual cycle and is the work of an exquisitely intricate and sensitive mechanism. Both males and females possess a gland, within the skull beneath the brain, called the pituitary. This amazing gland, about the size of a large pea, is the most efficient chemical factory in the world. Within its small confines a score or more key body-regulating chemicals are manufac-

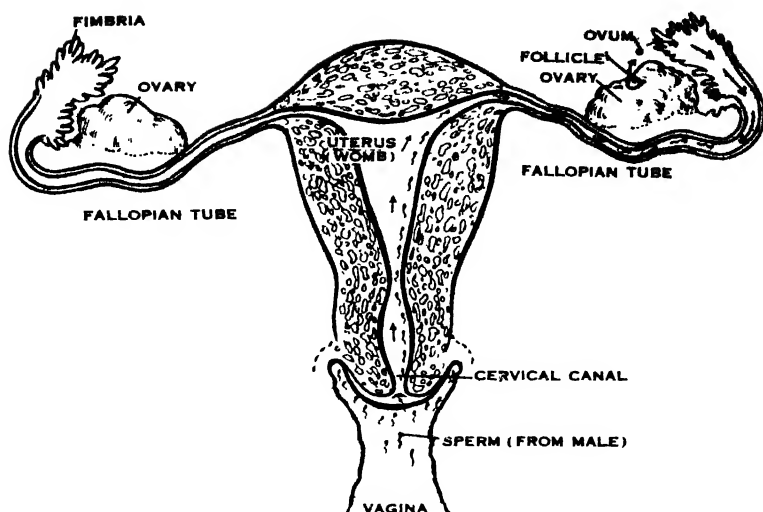
*2. Female Reproductive Organs (side view)*



tured. In essence, the pituitary is the body's built-in thermostat, clock, and general regulator.

In the female, a group of pituitary cells produces a chemical substance called the gonadotropic hormone. Shortly after a menstrual period is completed, the pituitary discharges this hormone into the bloodstream and, as the blood circulates, the chemical is brought to the ovaries. In one of the two ovaries, one particular egg is more ready and prepared than the thousands of others to participate in fertilization. (Occasionally two or three eggs are equally mature and then unlike or fraternal twins or triplets may be conceived.) The egg is the human body's largest cell, approximately  $1/180$  of an inch in diameter. When one receives the chemical stimulus of the gonadotropic hormone, other much smaller cells are grouped around it in a circular protective shield; fluid then forms within this cell mass raising a half-inch blister, or follicle, which bulges from the surface of the ovary.

When the fluid pressure becomes sufficiently great, the follicle bursts, catapulting its contents, including the egg, into the opening of one of the oviducts. A woman has two oviducts, one on either side, called the Fallopian tubes. These are extremely narrow muscle-walled pipes or conduits, three to five inches long with the bore of a broom straw, connecting the ovary with the womb. The ovarian end of the Fallopian tube is shaped like a funnel, with the wide end consisting of fingerlike growths called fimbria. Throughout most of the monthly menstrual cycle, these fingerlike extensions are inert and inactive, as if they were drooping in shame. But for two or three days during the period of ovulation, the fimbria are excitedly active. They become proudly erect and reach across the surface of the



3. *Female Reproductive Organs (front view)*

ovary, ready to entrap the egg so that it will be guided into the funnel-like entrance and thence into the tube itself.

Once in the tube, the egg rapidly travels half the distance to the womb, but from that point on in the journey its downward progress is incredibly slow, requiring 60 to 72 hours to travel the two additional inches before it enters the cavity of the womb. The egg journeys passively, propelled along by fluid currents within the tube. If fertilization does not occur, the egg begins to deteriorate twelve hours after it is ovulated, and breaks up into fragments of microscopic size which then dissolve. Some women seem puzzled as to the eventual fate of the hundreds of unfertilized eggs which mature during a lifetime. All animals which bear living young—be they mice or humans—have eggs of approximately the same size, about that of the smallest dot one can make with a finely sharp-

ened pencil, perhaps one-quarter as large as the period ending this sentence.

During sexual intercourse, the man deposits his semen in the vagina near the cervix, the entrance to the womb. The semen swarms with hundreds of millions of spermatozoa. Each of these cells possesses a head containing the nucleus, which is the man's contribution to the baby being conceived. In addition, each sperm cell has a long, hairlike tail which lashes back and forth to furnish motive power so that the sperm can swim. Its pace is relatively rapid for so minute a creature; the head of a sperm is only  $1/7,700$  of an inch in diameter, and its total length from head to tail is  $1/500$  of an inch. Yet sperm cells have been clocked to swim a one-inch course in eight minutes.

Sperm cells have neither eyes nor brains nor any other directional apparatus. Therefore, whether they swim toward the egg or away from it is wholly a matter of chance.

The canal connecting the vagina with the womb, called the cervical canal, is filled with mucus. For most of the menstrual cycle the cervical mucus is scant, thick and impenetrable. During four or five days midway in the cycle around the time of ovulation, however, the mucus is copious, thin, watery and readily penetrable by spermatozoa. This change, like the marvelous transformation of the ovarian entrance of the Fallopian tubes already described, is another way in which nature prepares the organs for the conception of a new life. The result is that in mid-cycle, within 90 seconds after intercourse, a myriad of sperm cells are already actively swimming in the mucus an inch or more up the one-and-a-half-inch-long cervical canal. How they get so far so fast is a mystery. Orgasm in

the female does not appear to influence this since they are found equally high up in the cervix whether or not the woman reaches a climax.

Almost a half-billion sperm cells are normally ejaculated at each orgasm by the male, but only a small fraction gain the sanctuary of the cervical mucus. From that point, it appears, they swim on into the fluid which coats the flattened cavity forming the interior of the womb. Many undoubtedly get lost along the way and others tire and drop out of the race. Perhaps forty or fifty thousand cells traverse the two inches necessary to reach the apex of the uterus, where the two Fallopian tubes connect. Half of the sperm cells unwittingly ascend the wrong tube—the tube which that month contains no ripened egg. It has been estimated that only 4,000 of the hundreds of million sperm cells ejaculated actually arrive at the area in the middle of the tube where the egg is waiting, or is about to arrive, and where fertilization can take place.

On the basis of comparative studies in animals, we know that sperm cells retain the ability to fertilize an egg for only 36 to 48 hours after they have been deposited in the woman's body. The hundreds of millions of sperm lazing about in the vagina after ejaculation are killed off rapidly by the acid condition normally present there. The only sperm cells which live for thirty-six to forty-eight hours are the relatively few that have traversed the vagina and reached the favorable alkaline surroundings of the cervical canal, womb, and Fallopian tubes. In contrast to this short life of human sperm cells, sperm of ants and bees may survive in the female for several years.

Since only one sperm cell actually penetrates and unites with the egg, why are 4,000 spermatozoa present at the

fertilization site? When the egg is ovulated, a halo of smaller, protective cells completely surrounds and adheres to it. It is thought that sperm cells discharge an enzyme or chemical that is needed to dissolve the material which fastens the small cells to the relatively large egg. Only after these cells have fallen off and the capsule of the egg is left bare, is it possible for one of the sperm cells to penetrate.

The spermatozoon becomes motionless almost immediately upon contact with the egg. The egg itself undergoes changes at the point where the sperm touches it. These changes are brought about by the chemical from the sperm head which softens the tough egg capsule at the point of contact to allow the sperm to be drawn in. The surface of the egg then immediately closes over this opening, and at the same time, other chemical changes occur in the egg capsule which make it impenetrable to all other sperm cells.

Fertilization, then, has taken place; a baby has been conceived. After conception occurs, the egg attaches itself to the wall of the womb where it grows for nine months until the baby is ready to be born.

Identical twins occur when the fertilized egg, at an early stage of development, divides in half and each half develops separately. In the case of one-egg triplets, the egg divides into three parts following fertilization.

The marvelously intricate process of conception requires that every step occur precisely on schedule and in the order described. To prevent unwanted conception, it is therefore necessary to block this sequence of events at some point. This can be accomplished, for example, by preventing semen from entering the vagina or the cervical canal, or by limiting intercourse to those times when a



mature egg is not available for fertilization, or in several other ways. Each of these methods of protecting against unplanned pregnancy is described in detail in the following chapters.

## CHAPTER FOUR

### *Medical Birth Control Methods*

CONCEPTION can be prevented if the man's sperm is stopped from uniting with the woman's egg and fertilizing it. Over the centuries, men and women have devised a number of ways to accomplish this. In this chapter I shall deal with some of the medical methods which have been most popular in recent years.

#### *The Condom \**

If the man's sperm does not enter the woman's vagina, it cannot begin its migration through the womb and the Fallopian tubes to reach the egg. One of the most effective means to keep sperm out of the vagina is the condom, popularly known as a "rubber" or "prophylactic."

Condoms are usually made of thin, strong latex, and are shaped like the finger of a glove. They are designed to be placed on the erect penis before sexual intercourse and to receive the man's ejaculation produced by his climax. They are harmless. They can be purchased easily without prescription in drugstores and elsewhere.

Based on clinical experience, we can rate condoms with the new pills, intrauterine devices and the diaphragm as

the most effective contraceptives available. When used properly and regularly, they will provide a very high degree of protection against unwanted pregnancy.

As shown in the studies mentioned earlier, condoms are probably the most popular contraceptive product in the United States today, used by more than one out of four couples who practice some form of birth control. Their popularity is explained by the fact that they are simple to use, easy to purchase, and do not require fitting or personal advice by a doctor.

If American men do not learn about condoms during adolescence, they usually become familiar with their use in the Armed Forces where instruction is given as part of the program to control venereal disease. For, in addition to their contraceptive value, condoms also prevent the spread of infection from one sexual partner to the other.

The annual United States production of condoms is estimated at between 700,000,000 and 850,000,000, most of which are made of latex rubber. At the open end, which is usually  $1\frac{1}{2}$  inches in diameter, there is a rubber ring. The closed end is plain-ended, or it may have a pocket or teat, which is supposed to be less likely to burst because there is space for the semen to be caught in the pocket. The teat-ended variety is more popular in Europe than in America. Condoms are about  $7\frac{1}{2}$  inches long and are made of such thin material that one weighs only one-twentieth of an ounce. They are packed in envelopes, cardboard boxes, or metal containers in groups of three or a dozen. The shelf life—the period of time during which a product can be kept before it deteriorates—of packaged condoms is at least two years.

Some condoms are made from the intestines of sheep, and this variety is known as “skin” condoms. These were

quite popular years ago before rubber condoms were made as thin as they now are. The proponents of skin condoms claim that they conduct heat better than rubber and thus are less likely to interfere with sexual satisfaction. Formerly, it was necessary to soften them in water immediately before use, but this inconvenience has been eliminated by premoistened packaging. Skin condoms usually are three times as expensive as those made of rubber.

For many years the major drawback of the condom as a contraceptive was that many of those manufactured in this country were defective. In        however, supervision of the quality of condoms was undertaken by the United States Food and Drug Administration which requires that they be free of any weakness, holes, or other defects rendering them unsuitable for use. To enforce this requirement the FDA makes spot checks of shipments and confiscates substandard lots; a maximum penalty of a \$10,000 fine and/or a three-year prison sentence may be imposed for repeated violations by a manufacturer.

During the last thirty years, improvements have also been made in the manufacturing process to permit continuous, nearly automatic production. Testing procedures instituted by the manufacturers themselves now utilize electronic methods which can pick up even minute imperfections. One worker is able to check more than 2,000 finished condoms per hour and approximately 10 to 15 percent are rejected for flaws.

The FDA does not use electronic tests on condoms. Its inspectors select condoms at random and fill the rubber variety with 10 ounces of water; the open end is then closed by twisting and the unit is rolled over a dry towel. Large holes are revealed by thin spouts of water, while

smaller holes are detected by the presence of moisture on the towel. On "skin" condoms, which comprise 2 to 3 percent of all condoms sold in the United States, the FDA has thus far been unable to standardize quality tests.

The net effect of this testing by both the maker and the government is that condoms manufactured in the United States today are extremely reliable. In 1958, based on the FDA's findings, the proportion of defective rubber condoms was estimated at 0.30 percent, or one defective unit out of almost 350.

These improvements, I believe, have made obsolete the instructions which physicians formerly gave to patients to pretest the condom before use by inflating it with water or cigarette smoke. Since condoms are now of such uniformly high quality, such a procedure seems unnecessary and dangerous because unskillful handling in pretesting is likely to result in a higher proportion of defective condoms than the rare, undetected flaw occasioned by faulty manufacture.

If care is taken, condoms and especially "skins" can be used five or six times each. The condom may be placed in a bed-side tumbler of water after use and left there until the next morning. Then it should be tested for defects by filling it with water under pressure. If none are found, it should be dried thoroughly on both sides, powdered, and rerolled.

Condoms provide a very high degree of protection against conception, but accidents can happen. The major cause of failure is rupture of the condom during use which occurs, according to a study, approximately once in every 150 to 300 uses. Perhaps with today's improved condoms the occurrence of bursting is even less frequent. Two steps may help to forestall this. First, if the condom is the

usual plain-ended American variety, it should be unrolled on the erect penis with a half-inch of space left at the end to accommodate the ejaculation. Second, if the natural moisture in the woman's genital tract is scant, the outside of the condom should be lubricated to prevent tearing on insertion. The best lubricant is any one of the many commercial contraceptive jellies or creams. Vaseline or other oils should not be used since they cause rubber to deteriorate. (Standard brands are listed in Appendix B, page 297.)

Failure may sometimes be caused if the condom slips off when the penis is being withdrawn after climax. When this happens, some semen may be spilled into the vagina. This can be avoided if the man securely holds the ring at the top of the condom to prevent spillage as he withdraws.

Despite these precautions, however, accidents can occur. If this happens, the woman should immediately insert an applicator full of contraceptive cream or jelly into her vagina. If no jelly or cream is available, immediate douching is second best. Plain water acts as a spermicide, and, since time is of the essence, it is unwise to delay by preparing a douche solution.

Despite the evident popularity of the condom, some men don't like to use this method for a variety of reasons. One objection is that love play must be interrupted to put the condom on, but imaginative couples have found this to present no difficulty; they usually make this part of the pleasurable preparations for intercourse with the wife making the placement as a signal that she is ready.

Other objections are perhaps more significant. Some men claim that the condom interferes with normal sexual response by dulling sensation. Some ejaculate prematurely while putting the condom on.

On the other hand, there is ample evidence that many

husbands and wives find condoms perfectly satisfactory and use them throughout their married lives.

It should also be pointed out that there are a number of medical situations in which the condom would be the preferred contraceptive method. This would be the case when the wife has certain kinds of vaginitis—an inflammation of the vagina—which can be transmitted to the husband during intercourse. In addition, some men have a chronic infection with a tiny parasite, the trichomonas, which causes vaginitis in their wives. This little organism is difficult to eradicate, especially from the male. Therefore, when the wife seems to be cured, the physician will often counsel the husband to use a condom so as not to reinfect her. I must emphasize that these mild conditions of vaginitis in the wife or urethritis in the husband are not venereal diseases in the sense of syphilis or gonorrhea. These venereal diseases can only be acquired by intimate contact, usually through intercourse, with a member of the opposite sex who suffers from such a disease. On the other hand, vaginitis can be acquired in other ways not involving sexual contact.

The condom may also be preferred where the wife has anatomical difficulties which rule out use of a diaphragm. This sometimes happens after she has had many children. The condom is often prescribed at the premarital consultation, if the bride prefers not to be fitted with a diaphragm before the wedding.

Some couples prefer the condom for essentially psychological reasons. If a woman finds it distasteful to handle her sex organs, it would be obviously undesirable to prescribe a diaphragm for her and the condom would be indicated. Likewise, many couples find the condom reassuring because they can see clearly that it works by keeping

semen out of the vaginal canal. This may be particularly true of couples whose knowledge of sexual anatomy and physiology is limited and who therefore feel less security with internal contraceptive methods.

The condom, then, is an excellent means of contraception for those who find it acceptable and use it consistently.

### *The Diaphragm*

Even if the man's sperm enters the vagina, conception can still be avoided if the sperm is stopped from entering the womb. About eighty years ago, a German doctor designed a highly efficient appliance to cover the entrance to the womb. This is called a vaginal diaphragm.

The diaphragm is made of soft rubber, in the shape of a shallow cup, with a flexible metal spring forming the circular outer edge. It comes in a variety of sizes, which are measured in millimeters; in the United States sizes generally range from 50 to 105 mm. (2 to 4 inches in diameter). A diaphragm must be fitted to the individual woman by a doctor who is trained in this field, and a doctor's prescription is required in order to purchase one.

Vaginal diaphragms, with a contraceptive jelly or cream were used by a little less than one-quarter of the married couples of childbearing age in the United States who attempted to control their fertility. However, today the sudden popularity of the pill and the IUDs has probably decreased the proportion of both condom and diaphragm users. *For many years, the diaphragm was the method most frequently prescribed by doctors and birth control centers.*

If a diaphragm is to be used, it is most important that it be fitted properly to the individual woman's requirements.



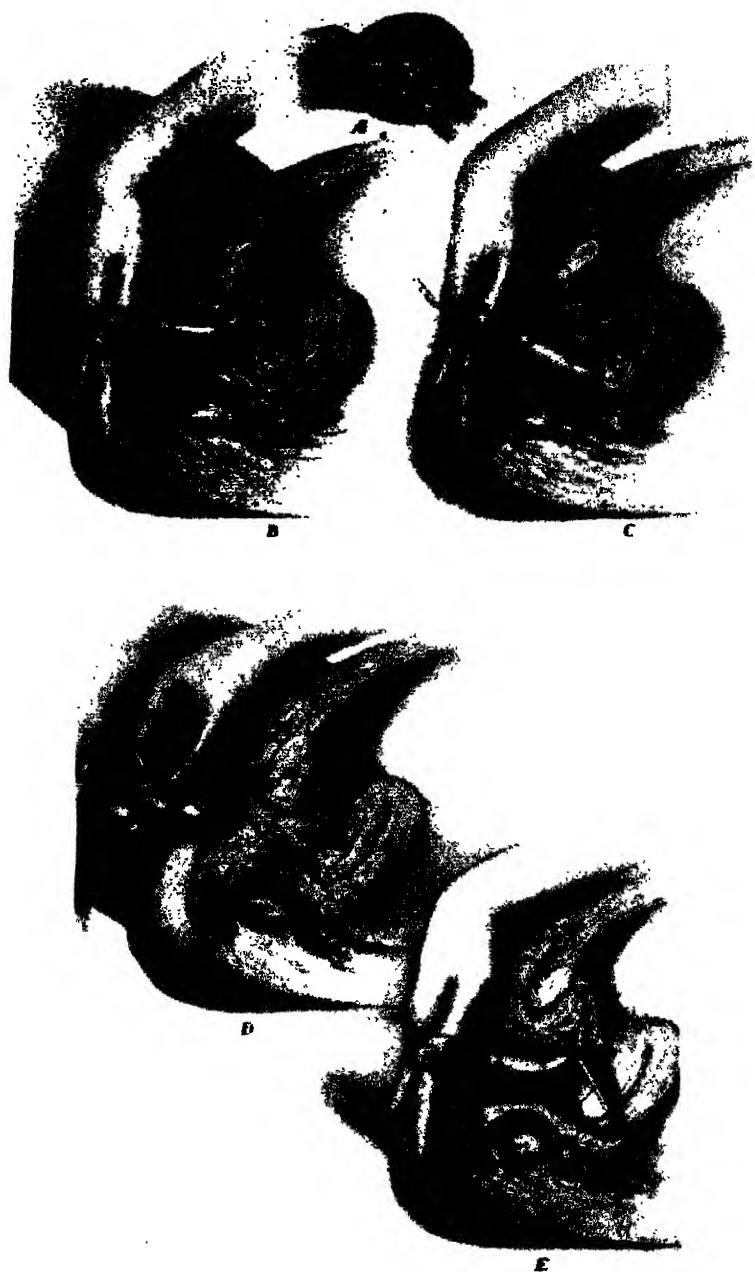
It is designed to fit snugly between the bone forming the forward part of the pelvis—the symphysis—and the vaginal tissues covering the end of the spine; this distance varies



4. *Diaphragm and inserter*

considerably in different women. If an improper size is chosen, the likelihood of failure will be increased because the diaphragm will not do its job of forming an impenetrable barrier between the upper third of the vagina, where the entrance to the womb is located, and the lower two-thirds of the vagina. If the size is improper, sperm can get around the edges of the diaphragm and reach the entrance to the womb. When a diaphragm is too small or too large, moreover, it can be displaced by the penis during intercourse.

It is wise, therefore, for a woman to consult a physician who is expert in this procedure—an obstetrician-gynecologist or a general practitioner who is skilled in contraception and other phases of office gynecology. The doctor will also instruct the patient how she should insert the dia-



5. A to F. Procedure for insertion of the diaphragm by hand.  
G portrays its removal.



phragm, how to apply the contraceptive jelly or cream, and how to remove the diaphragm.

Since a woman's vagina is stretched by childbirth, it is also advisable for her to check the size of diaphragm she requires after delivery. A recheck is similarly recommended after the honeymoon for women who have had no previous sexual intercourse.

Often engaged girls come to my office a few days before their wedding and ask to be fitted. In order to do this, I explain, the opening in the hymen—the thick tissue partly covering the entrance to the vagina—frequently must first be enlarged. Since rupture with disappearance of the hymen usually occurs with loss of virginity during the first intercourse, some women prefer to use a different method of contraception on their honeymoon and to be fitted for a diaphragm after they return. On the other hand, many young couples today discuss their birth control plans candidly before the ceremony and decide that they want

to start marriage with the diaphragm. In these cases, the bride-to-be goes to a trained physician who gently stretches the already existing opening in the hymen with his lubricated, gloved finger. When the opening is stretched large enough to accommodate two or three fingers, there is sufficient room to fit and insert a diaphragm and to receive the erect penis on the wedding night, thus eliminating possibility of pain or bleeding at that time.

Most women can be taught to insert a diaphragm easily with their fingers, but some prefer to use a specially designed inserter. These inserters are made of plastic or metal and come in the form of a slightly curved rod with a series of notches along the shank, corresponding to various diaphragm sizes. The diaphragm is attached to the inserter which is then pushed as far back into the vagina as possible. A slight twist of the inserter releases the diaphragm by causing its rim to slip off the notch. This procedure leaves the diaphragm in proper position, and the inserter is then withdrawn. Inserters also have a short blunt hook on one end which can be used to grasp the forward rim of the diaphragm to remove it from the vagina. Inserters are generally advised for patients with stout fingers who find it difficult to position the diaphragm manually, and for those who are squeamish about handling themselves. They are also useful in proper placement of the diaphragm in a woman whose uterus is tipped backward.

In addition to the round diaphragm, which is pushed into an oval shape when inserted and is suitable for probably nine out of ten women, there are diaphragms designed with unusual shapes for women with various anatomical difficulties or with greatly relaxed vaginal tissues following frequent childbirth.

*If the diaphragm is fitted properly and is inserted in the*

right place, the woman will not be aware of it. If she is conscious of its presence, she should check its position immediately, and, if the feeling persists, she should return to her physician for a new fitting.

The diaphragm, as we have shown, forms a mechanical barrier covering the neck of the womb. When it is used with a contraceptive jelly or cream, a chemical barrier to sperm is added to the mechanical one. Jellies and creams have chemical substances called spermicidal agents, which quickly kill or immobilize sperm cells. They will fill in the folds in the wall of the vagina upon which the outer rim of the diaphragm rests, thus preventing sperm from getting through.

After the fitting, I generally give my patients instructions along the following lines:

1. Get into the habit of inserting the diaphragm each night when getting ready for bed. Then there will be no need to interrupt love play in order to insert it if intercourse is desired. If intercourse does not take place, no harm will be done.

2. Before inserting the diaphragm, smear the rim with contraceptive jelly or cream, and squeeze about a teaspoonful on the side of the diaphragm which will face the neck of the womb.

3. Whenever an additional act of intercourse is going to take place several hours after inserting the diaphragm, squeeze another teaspoonful of jelly or cream into the vagina beforehand. Leave the diaphragm in place.

4. Do not remove the diaphragm until at least six hours after the last act of intercourse is completed. If you wish, it may be left in place for twenty-four hours.

5. No douche should be taken until the woman is ready to remove the diaphragm. A douche is not required but is

entirely up to the patient. (Routine douching for "feminine hygiene" is not encouraged by most physicians since a normal woman has no need for it; natural processes keep her vaginal tract clean. If, after reading the enticing ads of the pharmaceutical companies, a woman feels she wants to douche, she can use plain or soapy water since they make adequate douching solutions. She can also, of course, use any of the perfumed douche powders marketed as aids for "feminine hygiene"; they are perfectly safe when used as instructed, but they are no more efficient as contraceptives than plain water.) In any case, a woman should not douche while the diaphragm is in place sooner than six hours after sexual relations since this might cause sperm to get around it and enter the womb. If a douche is taken (six hours after intercourse or later), half of it may be taken while the diaphragm is in place, the diaphragm removed, and then the douche can be completed. A bulb douche or douche bag may be used. The douche may be taken astride the toilet or while lying in the bathtub.

6. After removing the diaphragm, wash it carefully with mild soap and water, and dry with a towel. Powder it lightly with any kind of powder and put it back in its box or container. A diaphragm which is properly cared for should last for years.

7. Test it occasionally for holes, tears, or cracks by holding it in front of a strong light or filling it with water. Defects are most likely to appear near the rim where the rubber is sealed over the round spring.

With a bride-to-be, I usually take the opportunity at the premarital consultation not only to prescribe the contraceptive, but also to discuss the sexual relationship. If the groom is present, I ask him to join the discussion. Most couples ask some of the questions that have been concern-

ing them. The most common points of confusion—judging by the frequency of the questions—are how often the couple should have intercourse; the advisability of relations during menstruation and pregnancy; the need for douching; and how the woman's response can be increased.

In regard to the menstruation question, I point out that there is no medical reason for avoiding intercourse at that time, whatever the aesthetic considerations may be. If intercourse is desired during the menses, the use of a diaphragm may help overcome the aesthetic objections, since a well fitting diaphragm dams back the menstrual flow in the upper vagina and prevents it from entering into the lower vagina. There is enough room in the upper vagina to accommodate at least twelve hours of the menstrual discharge so that if during the menses the diaphragm is removed within twelve hours, no harm can result.

When fitting a diaphragm, I also take the opportunity to dispel some of the myths about this device which are widely prevalent. I reassure patients that a diaphragm is completely harmless and will cause no difficulty or disorder of any kind. If the diaphragm is irritating, it is the wrong size and a new one should be fitted.

I also point out that a diaphragm cannot get "lost" inside a woman's body—a fear which is not uncommon, though how such fears could arise in America, where women are familiar with the use of vaginal tampons, is beyond my understanding.

One final point is that if the diaphragm is used correctly, and, if it is inserted nightly as part of the before-bed routine, it not only provides a very effective form of birth control, but also approaches the physiologic norm of sexual intercourse without stopping for contraception.

Thus it should help to improve sexual enjoyment because it gives the couple a feeling of complete security in the contraceptive protection afforded, it does not require interruption in the marital embrace, and it does not reduce sexual sensation.

To fit a patient properly with a diaphragm and instruct her in its use is a time-consuming procedure for the average physician. Some women can learn the technique rapidly while others may need a considerably longer period. Nevertheless, the instructions—and supervised rehearsal of the insertion process—are a vital part of the fitting since effective birth control with a diaphragm is impossible unless the woman knows how to use the appliance and has enough confidence to do it consistently. If the doctor's instructions are unclear, do not hesitate to ask him to explain or repeat them. A diaphragm will do you no good unless used correctly.

Because of the time factor involved, private physicians have to charge a substantial fee—often \$15 or more—for a fitting. If you cannot afford this, call your local Planned Parenthood center—or write to the Planned Parenthood Federation of America (515 Madison Avenue, New York 22, N.Y.) for the address of a center or trained physician nearest you. (A complete list of PPFA centers in the U.S. is in Appendix A, page 278.)

The diaphragm is not suitable for some wives—especially those who find it too distasteful to handle themselves or are unhappy with the need for nightly insertion. For them other techniques of contraception may be more satisfactory.

But for women who do not find insertion too irksome and who have the determination to use it regularly, the diaphragm is a highly reliable and useful method.



### ***The Cervical Cap***

Another appliance designed to cover the entrance to the womb is called the cervical cap. This is a small cap, or cup, made of metal, or plastic, which fits securely over the cervix or neck of the womb. The cervix itself is a round



6. *Cervical cap*

projection, about an inch in diameter, and an inch in length, located in the upper part of the vagina. If the cap fits snugly and remains undisturbed during intercourse, it acts as effectively as a diaphragm in preventing sperm from entering the womb.

Like the diaphragm, a cap also must be fitted carefully by a trained physician. Unlike the diaphragm, however, insertion and placement are a difficult procedure for some

women because the cervix is located so deep in the vagina. Though this fact tends to limit the cap's usefulness, for those who can master the technique of placement, it may be an ideal method. This is particularly true because the cap can be worn for days or even weeks at a time without being removed, and thus provides an ever-present form of protection. Some doctors instruct the woman to insert the cap after menstruation and leave it in place for almost the whole cycle between menses, removing it only a few days before the next period is due. If it is fitted accurately and placed securely, it cannot be moved by the penis during intercourse.

Available studies indicate that the effectiveness of the cap in preventing conception is extremely high—as high as with the diaphragm and the condom. For those couples who can learn the technique of placement, it can be recommended without reservation.

### *Intrauterine Contraceptive Devices (IUDs)*

Some forty years ago a German physician popularized another method of preventing conception—the temporary introduction of a ring of silver wire an inch in diameter within the canal or cavity of the uterus. The ring was passed into the uterine cavity by compressing it into an elliptical shape. When released from the inserting instrument, the springlike ring became round again and fixed in position by the constraining walls of the womb's cavity, walls formed by smooth muscle, a tissue akin to ordinary muscle. Not infrequently the canal of the cervix through which the ring was inserted into the cavity of the uterus had to be dilated with instruments to accomplish the inser-

tion of the ring. The silver ring was usually left in place for twelve months or longer and then removed by grasping the ring with a hooklike instrument. It was left out briefly and reinserted unless pregnancy was desired. Shortly after the introduction of the silver ring, a replica was made from silkworm gut, a stiff unyielding material.

These early IUDs proved unsatisfactory since they caused a reaction on the part of the tissue lining the uterine cavity, and therefore this method of contraception was virtually abandoned. Furthermore most physicians condemned it. In 1959 new IUDs were introduced. They were fashioned from nonreactive materials—that is, materials against which the body shows no reaction.

Several are now being extensively used in the United States, Taiwan, India, Pakistan, Korea and other countries; they are listed in Appendix B on page 302. Three of these devices are made of a modern plastic, polyethylene, and come in such shapes as spirals, loops and bows. Another of the new devices is a flexible ring of stainless steel. By stretching, the plastic IUDs can be straightened into linear form and in this way can be inserted into the womb through a narrow tube, much like a soda straw. After placement in the womb, when the stretch is released the device recoils to its previous shape, since molded plastics are endowed with “memory” of their molded state. Several of the plastic materials are made radio-opaque so that the device can be easily seen by X-raying the womb; this provides a simple, positive way of checking to be sure that the device is in proper place.

In addition, two of these spirals or coils are made with a tail which sticks through the cervical opening into the vagina. This is useful since a small proportion of patients involuntarily expel the devices from the uterus, usually

during the first, second or third menstrual period after insertion. Obviously if the device is expelled from the uterus and the patient does not detect it, no protection against impregnation is offered. The patient, therefore, is taught to feel the tail protruding from the cervix; if she cannot feel the tail extending into the vagina, she is instructed to report to her doctor at once to determine whether the device is still in position.

Five different intrauterine devices are being critically evaluated by some 40-odd independent investigators who pool results, their analysis being conducted by the National Committee of Maternal Health. The clinical studies involve more than 16,000 women from all over the world. How the devices protect against pregnancy is not known for certain. The egg is discharged normally from the ovary into the tube, spermatozoa pass up through the uterus into the tube, but implantation of the egg in the uterus does not occur. On the basis of studies on monkeys fitted with IUDs it appears that the egg is hurried through the tube, requiring several hours instead of several days for its passage into the uterus. Whether or not fertilization occurs is not yet known. If fertilized, it probably reaches the uterus too prematurely to permit implantation.

The results of these massive clinical studies of the intrauterine contraceptives cause us to be enthusiastic concerning their safety, effectiveness as contraceptives, ease of introduction and removal, and freedom from serious side effects. The devices have been found to be almost as effective as oral pills in protecting against unwanted pregnancy, and, of course, they are even simpler to use. Once the device is inserted, the woman need do nothing until she wants to become pregnant and then have the device

withdrawn. Furthermore, an IUD is extraordinarily inexpensive to manufacture. In dealing with the control of population growth in many parts of the world, the expense of a contraceptive agent over the course of a year is of tremendous importance. To be sure, there are some drawbacks. Five to 10 percent of women expel them and another 5 to 10 percent have sufficient staining between the periods or such excessive periods while an IUD is in the uterus to require its removal. In general, an IUD is better tolerated by women who have borne two or more children. In the course of a year, one couple in 100 will have an unplanned pregnancy while the IUD is still in place. Pregnancy progresses normally and the child is born unaffected.

In recommending that the intrauterine contraceptives be offered at Planned Parenthood-affiliated birth-control centers, the national Medical Committee of the Planned Parenthood Federation summed up the advantages of this technique in this way: "The IUDs meet many of the prerequisites of the ideal contraceptive. This is a method serving the female which is safe, effective, inexpensive, acceptable to the patient and easy to use. The side effects are few, the contraceptive action is easily reversed, and the technique is applied at a time remote from the sex act."

In this country the devices are inserted by physicians, and because of the possibility of unnoticed expulsion and minor side effects, the woman should continue under his care. Some private doctors in the U.S. are offering this new contraceptive technique, as are many Planned Parenthood centers throughout the country. In some underdeveloped countries pilot studies are in operation to determine whether nurse midwives can be taught to employ IUDs in population-control programs.

### *Contraceptive Jelly or Cream Used Alone*

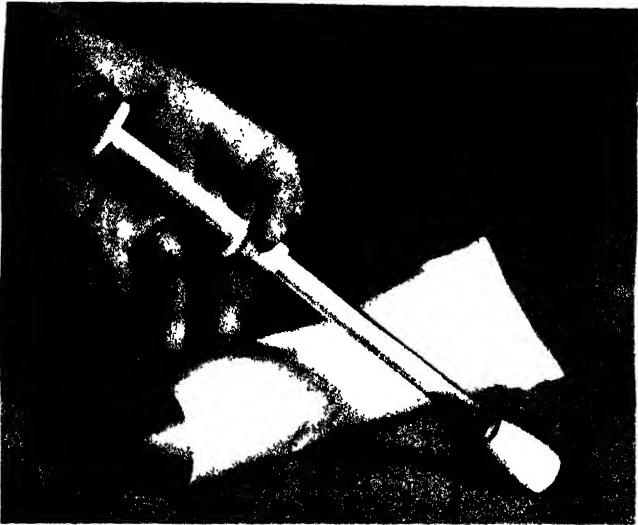
Each of the preceding methods employs a mechanical barrier to conception, often in conjunction with a chemical barrier. In recent years, many manufacturers have developed a simpler technique which employs chemical action only—spermicidal jellies and creams made for use alone without a diaphragm or cap. They are similar to the jellies or creams designed for use with a diaphragm, but more powerful.

There are many dependable preparations of this kind on the market; they are listed in Appendix B on page 300. The standard brands come in tubes of two and one-half to five ounces each, are harmless to the tissues, and can be purchased without prescription at drugstores (and in some supermarkets). A medical examination is not required in order to employ this technique. In recent years this method has become increasingly popular, particularly among newly married couples who prefer not to be bothered with the necessity of inserting a diaphragm.

For its contraceptive power, jelly or cream alone depends on two actions: The active ingredients are powerful spermicidal agents which kill or immobilize sperm cells, even when the number of sperm is very high. In addition, the jelly or cream in which these spermicides are mixed forms a filmlike coating over the mouth of the womb which blocks sperm cells from entering.

From a contraceptive point of view there is no difference in reliability between a jelly or a cream; the choice depends entirely on which variety is preferred by the particular couple.

A transparent applicator, made of plastic, is usually supplied with each tube. The applicator can be screwed on the top of the tube after removing the cap. The jelly or cream is then squeezed into the applicator to the desired dosage, about a teaspoonful (5 cc.). This is injected into the vagina less than one hour before intercourse.



*7. Contraceptive cream or jelly, with applicator*

The recommended procedure is for the woman to lie on her back, insert the filled applicator as far into the vagina as possible (about three or four inches), withdraw the applicator about half an inch and deposit the jelly or cream by pressing the plunger of the applicator. The applicator is then removed, the spermicide having been placed in the upper vagina where it can act effectively to block sperm.

One applicator dosage of jelly or cream is enough for

only one act of intercourse; when intercourse is repeated, therefore, another portion of the contraceptive must first be inserted. Some women find that the jelly or cream leaks out after intercourse; this can be controlled by placing a soft cloth or tissue between the thighs to absorb the leakage.

The plastic applicator should be washed with soap and water after use to keep the jelly or cream from hardening and blocking the plunger. If this happens, soak the applicator in water but do not boil it since the plastic will not stand high temperatures.

Most women find jellies or creams entirely harmless; an occasional patient complains of irritation or burning which apparently results from an individual allergy to a particular brand. This can usually be remedied by changing to another brand.

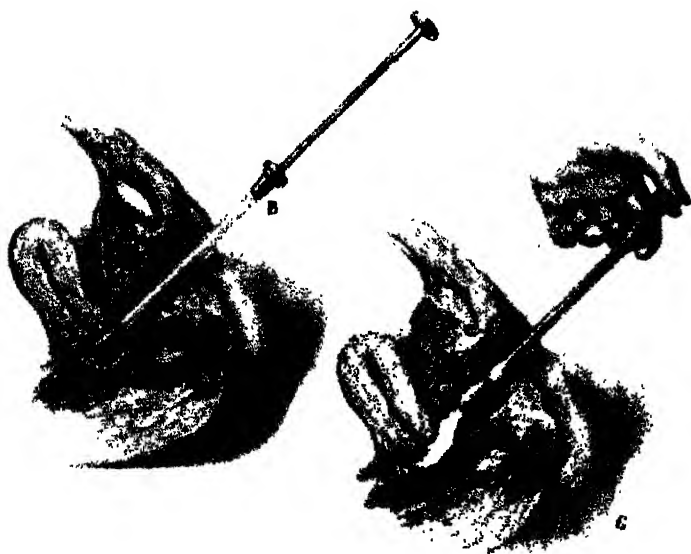
As with the diaphragm, patients using the jelly-or-cream-alone method are warned not to douche for at least six hours after the last intercourse. Even then, of course, douching is unnecessary. Most of the jelly or cream drains out of the vagina the next morning on arising, and can easily be washed away.

How reliable is ordinary jelly or cream used alone? Most physicians believe it is considerably less effective in preventing pregnancy than the diaphragm and jelly technique, because the latter method adds a mechanical barrier to the chemical action of the spermicide. However, jelly or cream alone is a simpler technique which avoids the need—bothersome to some women—of inserting a diaphragm. Many couples find better protection with a simple method, used whenever they have sexual relations, than with a theoretically more effective technique which



is less acceptable and therefore may not be used every time. The creams and jellies, moreover, may be used without medical instruction since no preliminary examination is required; this makes them specially applicable in areas where there is a shortage of doctors trained in contraception, or among women who for one reason or another find it embarrassing to ask their physician for a contraceptive prescription.

Among women who find no difficulty in discussing these matters with their doctor, it is recommended that they ask him if the jelly-or-cream-alone method is likely to be suitable for their way of life and their family situation.



8. *The use of cream as a contraceptive. A. Applicator nozzle and tube for filling. B. Insertion of applicator in the vault of the vagina. C. Deposition of cream at cervix by compression of plunger.*

*Aerosol Vaginal Foam*

An interesting variant of the standard contraceptive creams is the vaginal foam listed in the Appendix on page 301.

Unlike other creams, this variety is packaged in an aerosol bottle and foams up when inserted in the vagina. To use it, the top of the bottle is opened, and the special transparent applicator is placed over the uncapped top. A little pressure triggers the release valve, and a column of white, aerated cream is forced into the syringe, pushing the plunger out. The material looks just like foaming



9. Foam cream with applicator

lather, now so popular for shaving. In most respects, the way in which this aerated cream functions is identical with the other creams designed for use without a diaphragm. Two major improvements have been noted: It is less expensive to use and leakage after intercourse is less than after the use of nonaerated creams or jellies. These two factors have made it very acceptable to women. In addition careful studies in both the United States and the British Isles show the vaginal foam considerably more effective in prevention of pregnancy than nonfoaming creams and jellies used alone. The explanation appears to stem from their different physical properties. Creams and jellies have a tendency to remain as a lump of material after being deposited in the vagina and are distributed by the penis during intercourse. This distribution is probably occasionally inadequate to block the entrance to the uterus, the cervix. On the other hand, scientific observations have shown the aerosol foam evenly dispersed throughout the vagina even before sex relations. Thus the cervix is more consistently blocked by the chemical substances contained in the material.

These foams come in various size bottles and are sold with a special applicator designed to fit on the nozzle.

As stated above, patients who have used them say there is less leakage after intercourse than with the ordinary cream or jelly since the foam disappears in a few hours, leaving very little residue.

Currently there are two aerated foams approved by the Food and Drug Administration for sale in the United States.

### *Vaginal Tablets*

Vaginal tablets, about two or three times the weight of aspirin tablets, work on the same principle as the creams and jellies designed to be used alone. The difference is that instead of incorporating the sperm-killing ingredient in a jelly or cream base, it is packaged in a tablet which dissolves on contact with moisture. Like the creams or jellies, the tablets deliver a spermicide into the upper vagina. The foaming variety also forms a film which covers the entrance to the womb, thus preventing sperm from entering.

The tablets are round or arrowhead in shape and will disintegrate on contact with the normal moisture in the vagina. The foaming tablet releases harmless carbon dioxide gas to produce a rich foam. The tablet is inserted as far as possible into the vagina before each intercourse. Several minutes must elapse—and as long as an hour may elapse—before having intercourse to give the tablet time to dissolve. However, careful investigation has shown that such tablets do not wholly dissolve. They are likely to fragment into smaller segments which are distributed throughout the vagina by the penis. If vaginal moisture is scanty, patients are advised to moisten the tablet with saliva or a drop of water before inserting it. Douching should be avoided for at least six hours after the last act of intercourse.

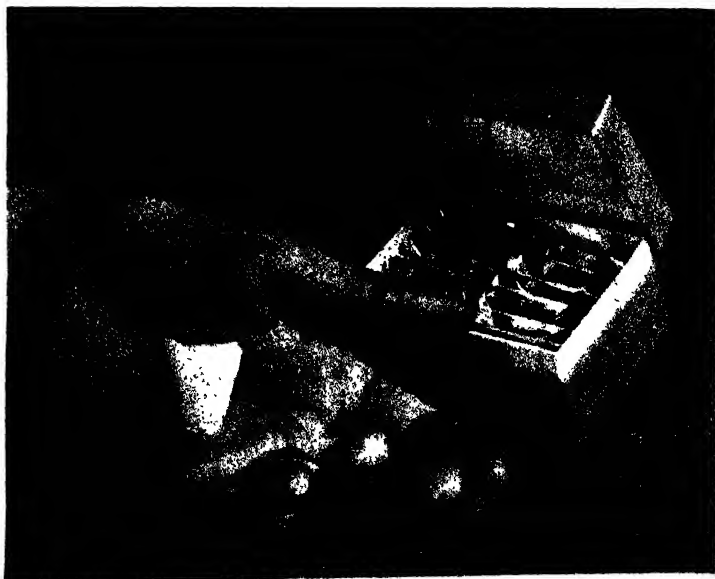
The tablet is harmless and can be bought without a prescription at most drugstores. It is listed in the Appendix on page 301. An efficient vaginal tablet must be stable enough to resist deterioration and crumbling when stored in hot, humid climates, and at the same time be fragile

enough to fragment rapidly and partially dissolve in normal vaginal moisture. This presents the manufacturer with a difficult problem. To help solve this, each tablet is either hermetically sealed in tinfoil or several are packaged in a wax-sealed glass vial.

The tablet is less expensive than jelly or cream used alone, and is probably the simplest to use of all current medical contraceptives. No medical examination or special equipment is required, nor is privacy essential; the tablet can be inserted while in bed a few minutes before intercourse. For these reasons, it has been accepted eagerly by many women.

Vaginal tablets, though simple to use, are probably less protective against pregnancy than the ordinary creams and jellies used alone and probably far less protective than aerated foam.

#### *10. Vaginal suppository*



### *Vaginal Suppositories*

Contraceptive suppositories work in the same way as the tablets. Instead of being packaged as a tablet, however, the spermicide is incorporated into a base of glycerogelatin, cocoa butter, or soap. In this base, the suppositories melt at a little less than body temperature. Like the tablets, one is inserted before each intercourse deep into the vagina where it melts in fifteen minutes, releasing the spermicide to immobilize the sperm which are ejaculated during intercourse. It is important to allow this quarter-hour period for the suppository to melt.

Like the tablets, suppositories are harmless and can be bought without prescription. Curiously they are also the only contraceptive materials which are advertised directly to the consuming public—although they are advertised as a method of “feminine hygiene” rather than of contraception. A popular brand is listed on page 301. They are simple to use and do not require a prior medical exam.

Some women complain of oily leakage following use of suppositories. This can be controlled, as with jelly alone, by placing a soft cloth or tissue between the thighs.

Suppositories are less dependable than the condom or diaphragm, and probably less dependable than jelly or cream alone. Their dependability probably ranks in the same range as the intravaginal tablets. Yet they must be included among the fairly reliable methods of contraception if only because their simplicity makes them very suitable for couples whose contraceptive goal is simply reduction of fertility, rather than the absolute prevention of pregnancy.

## CHAPTER FIVE

### *The "Pill"*

THE CONTRACEPTIVE METHODS I have just described work well for millions of couples, and doctors have no hesitation in prescribing them.

But none in the medical profession or in the birth control movement believes that any of the methods are ideal, except perhaps for the new IUDs, which, as mentioned previously, also have some drawbacks. For more than a dozen years we have encouraged research to develop new, improved methods which will prove useful to the many millions who, for one reason or another, have not been happy with current techniques.

What are the requirements for an ideal contraceptive? It should be harmless, reliable, free of objectionable side reactions, inexpensive, and simple to use. It must also be easily reversible in effect so that a woman can become pregnant when its use is stopped. And finally, one should be able to apply it at a time completely removed from the sexual act, so that the couple does not have to bother about birth control whenever they have intercourse.

This is quite an order to fill, and scientists in many parts of the world have been trying to meet these specifications. Such a method is likely to work through some physiologic mechanism, which means that it would have to affect the functioning of one of the body organs connected with con-

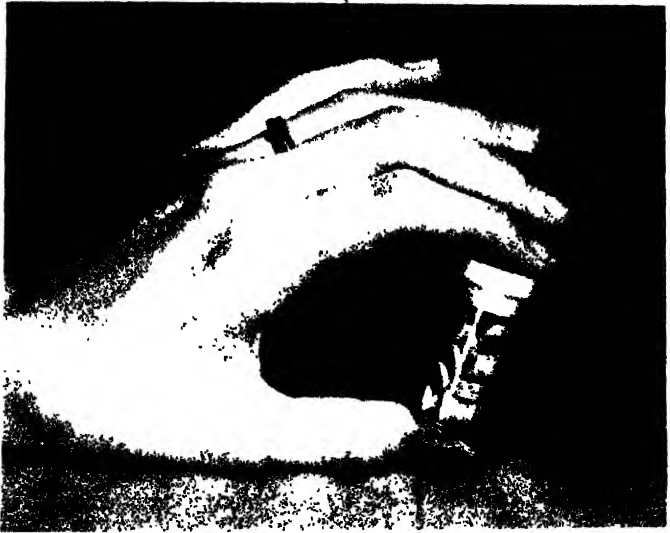
ception, or through an immunity reaction, produced by a vaccine or an injection. There are many points in the delicate chain of events leading to conception of a new human being which could be influenced. One would be to prevent the egg from being released by the ovary—the process we call ovulation—because if a woman does not have an egg to unite with the man's sperm, conception cannot take place. Another way would be to stop the formation of sperm in the man. Even if sperm and egg develop naturally, another way to break the natural chain of events could be to change the chemical environment in the Fallopian tubes to prevent fertilization. Similar approaches are possible at each of several other major points in this intricate process. It is a safe prediction that within the next decade—well within the childbearing years of many of my younger readers—there will be several practical new methods of physiologic contraception available.

The first such method, in fact, is already a reality and has been widely publicized during the last several years. Six oral contraceptive pills are now on the market; they are listed in the Appendix on page 302. When taken as directed, they are the most effective contraceptives known, which helps explain why more than three million women are already using them. They can be purchased only with a doctor's prescription and should be taken only under a doctor's direction.

These pills probably prevent conception by suppressing ovulation; when a woman takes them, her ovary does not go through the routine of releasing one egg each month. There are some data that they may also function by rendering the mucus secretions in the cervical opening impervious to penetration by the sperm cells and the lining



of the uterus hostile to the process of implantation, the planting of the fertilized egg cell. The pill is made of a steroid chemical—a synthetic drug with a molecular structure similar to the naturally occurring hormone, progesterone. During pregnancy, the naturally occurring progesterone prevents ovulation which keeps the woman from having fertilized eggs of different ages growing in



*11. The "pill"*

her womb at once. The pill largely duplicates this ovulation-suppressing action and thus makes it possible to prevent pregnancy from occurring.

The standard procedure with the new birth control pill is to swallow one pill each day, beginning on the fifth day of the menstrual cycle, counting the day that menstruation begins as the first day. The medication must be taken every day for twenty days. The patient then stops taking it

and one to three days later a menstrual period will begin. The same procedure is followed during every menstrual cycle, beginning on the fifth day. In approximately 3 percent of cycles, bleeding fails to appear after stopping the pills. Then the woman simply starts a new cycle of twenty pills one week after she has taken the last one.

*It is most important that this regimen be followed exactly.* If even one day's medication is missed, the woman has a slight chance of becoming pregnant. On the other hand, no woman who has faithfully taken the pills on schedule has become pregnant in any of the large-scale tests which have been conducted.

When I prescribe the pill, I tell my patient never to start them after the sixth day of the menstrual cycle but instead to rely on another method of contraception that month, until her next period. If she forgets to take a pill one day, I instruct her to discontinue the medication and use an ordinary contraceptive for the remainder of that menstrual cycle. One way to avoid forgetting is to establish a routine of taking the pill at a particular time each day.

A number of steroid pills in various sizes have thus far been approved for use as oral contraceptive drugs by the United States Food and Drug Administration, and it is certain that several new products—and new dosages—will be approved for marketing in the near future. Both larger and smaller doses have proved highly effective for contraception. The smaller pills cost less than the larger ones and it is a good medical rule of thumb to take the minimum amount of medication necessary to accomplish the objective. This decision, however, can be made only by your physician.

When pregnancy is desired, all the woman has to do is

to stop taking the medication, and her previous fertility is restored in the succeeding cycle.

Oral contraception is a totally new method of birth control, different in every respect from the conventional methods which have been used for many years. As with any other new medical procedure, it was received with caution by physicians, who demanded, in effect, that its value and safety be proved before they would use it in their own practices. Although clinical trials of the pill began in            it was not until            that the Food and Drug Administration approved the first pill for use as a contraceptive. In the summer of            the Medical Committee of the Planned Parenthood Federation of America was satisfied that sufficient evidence of its effectiveness and harmlessness had been shown to warrant Federation endorsement. The Committee then approved this new contraceptive.

The evidence of effectiveness of the oral pill as a contraceptive is based on large field tests which have been conducted for five to nine years in Puerto Rico, Haiti, Los Angeles, San Antonio, in New York at the Margaret Sanger Research Bureau, and other locations. In all, several thousand women have taken the pill in these tests. Not one patient who took the pills precisely as prescribed—one a day for twenty days each month—became pregnant. This is a record of effectiveness which no other contraceptive has matched.

Because the steroid pills change the way an important body mechanism works, there was much concern in the beginning over possible harmfulness. Accordingly, in each of the field studies, special efforts were made—by tissue analyses and other diagnostic tests—to reveal the presence of any dangerous aftereffects. Some slight changes, but no

abnormalities, have resulted in the thyroid, adrenal, or other glands; no evidence of damage to the liver, blood, kidney, or other parts of the body has been observed. Nor is there any indication that the pill has adverse effects on a woman's ability to have a child; when patients in the tests discontinued taking the pills, ovulation was resumed the next month. Women who did not use other means of contraception became pregnant at a normal rate.

One fear voiced at first was that protracted use of this kind of hormonelike drug might cause cancer of the uterus, ovary, or breast. Careful tests designed to reveal such dangers have shown absolutely no evidence that the pills stimulated cancer. As a matter of fact, there is some evidence that they may materially lessen the chances of acquiring some forms of cancer in females. Some cancers are much more frequent after the menopause and since the birth control pills seem to be able to postpone several manifestations of the change of life, perhaps they relieve postmenopausal malignancies of certain types if they are continued indefinitely. Since the pill prevents ovulation, it is thought that women taking it do not use up the full complement of eggs with which nature endowed them; perhaps if women continue the pill until sixty or sixty-five, it is suggested, they will still have good unused eggs left and thus be able to become pregnant. Thus pregnancy in older women is not outside the realm of fancy, but I for one would relegate it to the world of make-believe, rather than to the world of reality.

Obviously no one can guarantee that continuous use of the oral contraceptives over a period longer than the nine years of tests will be equally harmless. But there is every reason to think so, based on the mass of evidence accumulated thus far.

In the summer of            wide publicity was given to the occurrence of thrombophlebitis, or blood clots, resulting occasionally among women who were taking Enovid; in several cases of embolism, the women died. The problem is a simple one, but difficult to answer because of lack of critical scientific data: Does the occurrence of these vein difficulties have a causal connection with the fact that these women were taking the birth control pill, or was it simply a matter of happenstance? Every physician knows that young, healthy women, who have never even heard of the pill, may develop thrombophlebitis and even lung blood clots. The crux of the matter is, do pill patients have these illnesses with greater frequency? It is difficult to give a categorical answer because we have only fragmentary figures on the frequency of thrombophlebitis and pulmonary embolism in one million women who are *not* taking the pill—and these figures would be necessary to give us a sound basis for comparison with the number of cases reported among pill users.

The clinical facts in these cases were assembled and evaluated by experts at the Food and Drug Administration, American Medical Association, the National Research Council, and other specialists who reached the conclusion that it is not possible to establish a positive causal relationship between use of the pill and blood clots, nor, on the other hand, to rule out such a possibility. To provide a definitive answer, the FDA in January, appointed a top-level committee of nine experts in vascular disease, blood studies, gynecology and related fields, headed by Professor Irving S. Wright of Cornell Medical School. In its comprehensive report summarized in September in the *Journal of the American Medical Association*, the Committee, on the basis of a careful sifting of

the evidence, found that "no significant increase in the risk of thromboembolic death from the use of Enovid" has been demonstrated. One of the puzzles facing the Committee was that no two cases developing the blood clot difficulty were alike. Length of time of drug use, the dose, the previous number of pregnancies, etc., seemed to play no role. The Committee, to be on the safe side, cautioned against the prescription of the pill for women with certain cancers, liver disease or a history of previous abnormal blood clot conditions. The FDA has concluded that oral contraceptives should remain available for clinical use, a decision which is to be welcomed since there is no real contraceptive substitute for many patients, particularly for couples who are accident-prone from the viewpoint of unwanted pregnancy.

To be conservative—as one should be when health is concerned—the remote possibility of long-term danger is one of the reasons why we insist that the pills be taken only under a doctor's careful supervision. Despite the number of patients taking the pill and the length of time under careful observation, the complete answer is not known. I for one feel that further investigation is necessary concerning the possible association between the orals and blood clots. Another reason for medical supervision is that one out of five patients in the field tests did develop what we call temporary, short-term side effects; these are not dangerous but can be unpleasant. Whether or not a patient experiences these depends on her individual reaction to the medication. A doctor's assistance is necessary to minimize discomfort if these reactions occur.

One such side effect is a slight gastrointestinal disturbance. A few patients experience mild nausea and a bloated feeling similar to that which often occurs during the early

months of pregnancy. If the woman continues to take the medication, these symptoms usually disappear after one or two months. They may be lessened by antacids such as Gelusil, Tums, or Sodamints. We have also found that the symptoms sometimes disappear if the pill is taken with the largest meal of the day or just before bed.

Some women have occasional vaginal staining, called "breakthrough bleeding," a week or so after they start their course of twenty pills. This can usually be cleared up by taking two tablets for several days, and then returning to a single tablet for the remainder of the twenty days.

Some patients have shown some weight gain while taking the pills which apparently is attributable, in part, to an increase in appetite. This, of course, can be overcome by an extra dose of willpower, perhaps with the help of an appetite-depressant drug. Occasionally the gain in weight will be caused by retention of fluid in the body, which can be corrected by the physician's prescription of a diuretic—a drug to stimulate the production of urine. Dizziness, headache or mental depression also occasionally force a patient to abandon this form of birth control.

The pills seem to have no direct effect on sexual desire. But in some of the field trials, among women who previously had been constantly afraid of becoming pregnant, the effectiveness of the pill caused 40 percent of them to report an increase in sexual desire.

On the positive side, also, are three menstrual advantages of the pills reported by most patients: The amount of bleeding is less, there is usually total freedom from menstrual pains, and the cycle is very regular. Premenstrual discomfort or tension is also relieved in most instances.

There is one situation in which the pills would not be recommended, and that is right after childbirth in the case

of a woman who wants to nurse the infant. The pills may suppress lactation, the production of milk by the mother. If the mother desires to nurse the baby, she should use another contraceptive method until the nursing period is over.

To summarize, let us check the pill against the criteria described earlier for an ideal physiologic contraceptive. How does this new method measure up?

1. *Safety*—The pill is harmless in its effects for at least nine years of use, though no one can guarantee it will continue to be so if used longer. There is certainly no evidence that it causes, or is likely to cause, cancer or any *other serious disorder*. *There continues to be a glimmer of suspicion* that the pills may be associated in the very rare user with a state of overcoagulability of the blood sometimes leading to the formation of a clot in a vein. Such a clot may break off and be carried by the bloodstream to a distant organ. If such a problem exists, there is no way to sort out the patient who will develop it.

2. *Reliability*—The pill offers 100 percent protection against conception if taken as prescribed.

3. *Side Effects*—For one out of five patients, the pill receives a poor rating on this, while for the remaining four out of five, the rating is excellent.

4. *Price*—The pill is still somewhat expensive, although its price is being reduced. (For comparative figures, see Chapter Eleven.)

5. *Simplicity of Use*—It is not simple to apply because it must be started on a specific date in the cycle and it must be taken daily for twenty consecutive days. An error in the day on which the medication is begun, or its omission for a day or two, may result in failure.

6. *Reversibility*—The pill is readily reversible. Ovula-



tion ordinarily occurs during the cycle immediately following termination of its use.

7. *Time of Use*—The pill may be taken at a time completely removed from the sexual act.

On this seven-point scorecard, the pill can be evaluated as an excellent first step in the new era of physiologic contraception. For women who can afford it and will follow instructions faithfully, it will serve as a certain *method of preventing unwanted pregnancies.*

To keep today's birth control pills in proper perspective one must recognize that they are the exciting forerunners in the important area of oral contraceptives. *They are unlikely to be the last answer, any more than the sulfa drugs or even penicillin were in man's conquest of bacteria. The various mycin drugs came along and made them appear antiquated. In the same manner will the birth control pills of tomorrow replace the birth control pills of today.*

## CHAPTER SIX

### *The Rhythm Method*

NORMALLY a woman releases only one egg during each menstrual month. This egg has an active life of about twelve hours during which it can be fertilized by male sperm. And a man's sperm has an active life of only forty-eight hours during which it is able to fertilize the egg.

These biological facts form the scientific basis for the rhythm method of birth control, also known as the safe period. They lead to the simple and obvious conclusion that a normal woman can become pregnant during only about sixty hours in each menstrual month. If this two-and-a-half day period can be determined accurately and if sexual relations are avoided during this time, pregnancy will not occur.

For one out of five fertile American couples who use any form of family limitation, this calculation is a monthly routine for they rely on the rhythm method. Aside from total abstinence, the rhythm method—which is really timed abstinence—is the only technique of birth control declared licit by the Roman Catholic Church. It requires no special equipment and is therefore without cost. It is physically harmless. It does not require a doctor's prescription although, as we shall see, the guidance of a physician experienced in calculating ovulation may indeed be useful in increasing the chances of using the method with success.

The two and a half days during which a woman can be-

come pregnant are the two days before ovulation and the half day after it. In order to utilize the rhythm method, therefore, it is necessary to figure out exactly when ovulation is going to take place, and that's where the trouble starts.

For, unfortunately, as yet we have no certain way of knowing when a woman is about to ovulate or is ovulating. No definite sign is given at that time—or a day or two beforehand—to forewarn us. Instead of having precise information on which to calculate when a woman will be fertile and when she won't be, we have to rely on estimates. Our calculation can only be a little better than an informed guess.

A normal woman, we know, usually discharges her egg some twelve to sixteen days before her next menstrual period begins. If a woman menstruates every twenty-eight days, she should ovulate halfway through the cycle—on the thirteenth to the seventeenth day after her menstruation begins. Similarly, if her cycle were regularly thirty-three days, her egg would be released between the eighteenth and the twenty-second day after the first day of menstruation.

The difficulty, of course, is that few women menstruate with clocklike regularity. In most women the cycle can—and does—vary considerably, depending on all sorts of factors. The way her organs function, anxiety, sickness, fatigue—all these can contribute to irregularity in the menstrual cycle, and irregularity in ovulation.

To make allowances for these irregularities, it is necessary to lengthen the time of abstinence to provide a few days' margin of safety before and after the day on which ovulation is believed to take place. A reliable formula for

determining this, based on our most recent knowledge of the ovulatory process, is the following:

1. Keep a written record of your menstrual cycle for twelve consecutive months. Count the first day of menstruation as day one of the cycle, and the day before the next period as the last day of the cycle. At the end of twelve months, figure out how many days were in your shortest cycle and how many in your longest.

2. Subtract eighteen from the number of days in your shortest cycle. This determines the first fertile, or unsafe, day of your cycle.

3. Subtract eleven from the number of days in your longest cycle. This determines the last fertile day of your cycle, or the day on which your unsafe period ends.

Here are a few examples of how this works. Let us say that during the previous year your cycles ranged from twenty-six to twenty-nine days in length. Your fertile period would be from the eighth day (twenty-six days minus eighteen) to the eighteenth day (twenty-nine days minus eleven). Counting from the first day of menstruation, it would be safe to have intercourse until the eighth day, and after the eighteenth day. It would be unsafe during the eleven days in between.

If your year of recorded cycles varied from thirty to thirty-four days, it would be unsafe to have sexual relations on the twelve days between the twelfth day of your cycle and the twenty-third day.

The following tables may be helpful:

*If Your Shortest  
Period Has Been*

21 days  
22 "  
23 "  
24 "  
25 "  
26 "  
27 "  
28 "  
29 "  
30 "  
31 "  
32 "  
33 "  
34 "  
35 "

*Your First Fertile  
(Unsafe) Day Is*

3rd day  
4th "  
5th "  
6th "  
7th "  
8th "  
9th "  
10th "  
11th "  
12th "  
13th "  
14th "  
15th "  
16th "  
17th "

*If Your Longest  
Period Has Been*

21 days  
22 "  
23 "  
24 "  
25 "  
26 "  
27 "  
28 "  
29 "  
30 "  
31 "  
32 "  
33 "  
34 "  
35 "

*Your Last Fertile  
(Unsafe) Day Is*

10th day  
11th "  
12th "  
13th "  
14th "  
15th "  
16th "  
17th "  
18th "  
19th "  
20th "  
21st "  
22nd "  
23rd "  
24th "

This formula will help a woman determine with some degree of accuracy which days of the month are "safe" and which are fertile. It will certainly prove quite as accurate, or more so, than any of the dozens of special calendars, slide rules, wheels, and other assorted devices produced as "aids" to calculating the safe period. These devices are often extravagantly advertised and sold at high prices. They are no substitute for the year's menstrual record, and pencil and paper, required to use the formula correctly. (Incidentally, it is a good habit to keep a permanent record of your menstrual cycles, from adolescence on. An accurate record can be very useful when you want to become pregnant and at some point may be important to your physician in medical evaluation.)

SUN.	MON.	TUES.	WED.	THUR.	FRI.	SAT.
<b>FEBRUARY</b> 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28		<b>APRIL</b> 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30		1	2	3
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29	30	31

12. Calendar used for calculating "safe" period

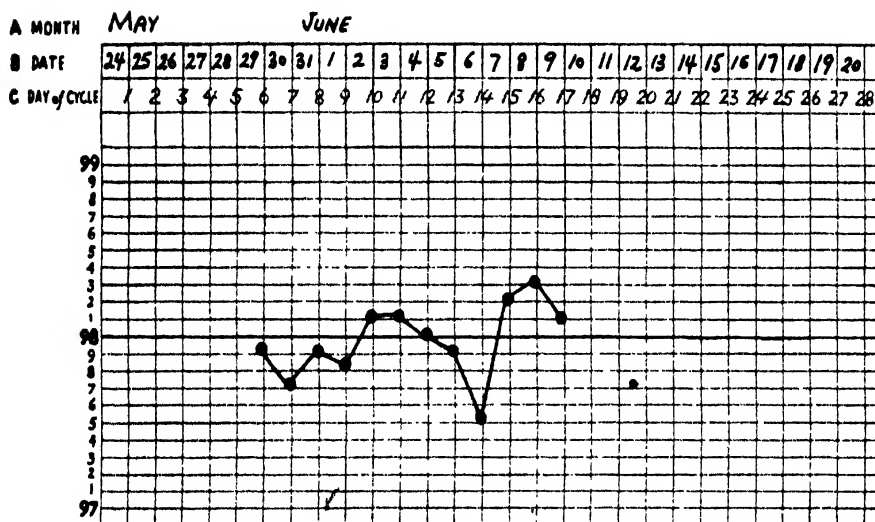
A more accurate means of practicing rhythm is the use of B.B.T. (basal body temperature). This depends on the fact that during the first half of the monthly cycle, the days preceding ovulation, a woman's temperature is relatively low and with the occurrence of ovulation it rises about six-tenths of a degree (Fahrenheit), remaining elevated until just before menstruation. If pregnancy ensues, the temperature remains up and does not show the premenstrual dip.

To use B.B.T. the woman takes her temperature each morning on awakening, before getting out of bed or even wakening her husband so that he can catch the 7:48 commuter train. After the thermometer is kept in for the necessary three minutes she can lay it aside and read it at her leisure. She charts the temperature daily, preferably on widely spaced graph paper, and when she notes that the temperature has gone up a half degree or more and remains up for three consecutive mornings, she can be relatively certain that ovulation has occurred and intercourse cannot result in impregnation. Of course, an intercurrent febrile illness during the month, such as a bad cold or tonsillitis, throws the whole thing off for that month.

Special thermometers that go only from 96-100 degrees so that tenths-of-degree marks are more widely spaced make B.B.T. technique easier; also rectal temperatures are more reliable than mouth temperatures, though if care is taken to record one's temperature immediately on awakening, mouth temperature is satisfactory.

Using B.B.T. is safer than the calendar, but it restricts the days for intercourse to the last 10 or 11 days of the menstrual month, no intercourse being permitted after the first few days of the menses.

Couples who desire to use the rhythm method with maximal hope of success are advised to consult a physician who can help them determine the safe and unsafe days. If your physician is not trained in this field, ask him to refer you to a doctor who is—or consult the doctors at your nearest Planned Parenthood center, most of whom



13. A typical record of basal body temperature

provide a rhythm method service to aid couples in making the computations. In New York, the Margaret Sanger Bureau's rhythm method service makes it possible for women to send their menstrual dates in each month and have their safe and fertile periods calculated by experts. After the initial consultation and instructions, the whole process may be done by mail.

The great hope for improving the rhythm method lies in development of simple procedures which will enable a woman either to predict when ovulation will take place, or



to cause it to occur at a given time. There is much evidence that such procedures are scientifically possible and perhaps we shall see real progress in this direction in the next decade. Recently, a litmus-paper test was developed which, it was claimed, signals the onset of ovulation by changing color in the presence of sugar in the mucus at the mouth of the womb (cervix). The test paper does indeed change color, but we have no proof that this means ovulation has occurred—or is about to. Furthermore, it is next to impossible for a woman to test her own mucus with the gadgets currently sold for this purpose without contaminating it chemically with substances from the vagina itself. This contamination, of course, may throw the color test off completely. Much more research is required before a meaningful test will be available.

Approximately 15 percent of women menstruate with such irregularity that they cannot use the rhythm method at all. Moreover, this method is not recommended during the months immediately after childbirth since the first several postpartum menstrual periods may be very irregular. It is probably safe to apply the formula stated above only after the third menstrual cycle following childbirth.

For the 85 percent of women who can use it, however, the rhythm method is far more effective than no contraceptive method at all, although less effective than the pill, IUD, condom, diaphragm or aerosol cream.

### *Folk Methods*

ALMOST ALL of the birth control techniques already discussed are fairly recent in origin. Most of them have either been developed or come into wide usage in this century.

In addition, there are several other methods which have been used for centuries in many parts of the world and are still popular today. They can be called "folk methods" since they developed without medical initiative and have been passed on from generation to generation.

#### *Withdrawal*

Probably the oldest technique which couples have employed in order to avoid having children is called withdrawal, or *coitus interruptus*. It refers to the withdrawal of the penis from the woman's vagina just prior to ejaculation so that the semen is deposited outside of the genital tract. This method is so generally known and so widely accepted that many who use it do not regard it as a contraceptive method at all, but think of it and describe it as simply "taking care."

In Europe, particularly western and northern Europe where relatively late marriages have been customary on all social levels, it appears that withdrawal was the principal method by which pregnancy was prevented in premarital love affairs. Transfer of the practice into married life, on a

scale sufficient to depress the birth rate, occurred in France toward the end of the eighteenth century and in other European countries during the nineteenth. Doubtless as a result of the widespread use of withdrawal, the older Catholic nations of Europe have some of the lowest birth rates in the modern world. In America, studies have revealed, as cited in Chapter One, that about seven couples out of a hundred use *coitus interruptus* as their main method of birth control. No doubt many more couples use it occasionally.

Withdrawal is, of course, a simple method requiring no equipment or preparation before the sex act; it costs nothing and is always available. And though it requires intercourse to be terminated rather abruptly by the male, it permits full contact between the sex organs of the partners. However, withdrawal has had a very poor reputation among doctors for generations, and some physicians still attribute many male and female ills to this technique. One gets the impression that such medical charges are more emotional than authoritative. In recent years, when some of us have been led to reexamine this method, we have been surprised to discover that there is virtually nothing of substance in medical literature to provide a scientific foundation for the charges.

What are the accusations? First, that sexual intercourse cannot be enjoyed in a relaxed mood by either partner if the uppermost thought is withdrawal by the man in the nick of time. Second, that reliance on withdrawal for a prolonged period will cause some men to ejaculate prematurely. Third, that in women slow to achieve orgasm, preejaculatory withdrawal by the male gives the female even less than normal opportunity to reach a climax. This

in turn is said to cause congestion of blood in pelvic organs, resulting in chronic pelvic pain and other female complaints.

The absence of any substantial body of evidence to support these accusations makes it extremely difficult to assess them. Many of us now believe that the charges may have stemmed more from personal dislike of the method than from professional observation. Perhaps I am led toward this conclusion by the old phrase, "Fifty million Frenchmen can't be wrong"—and by the evident fact that many happy, sexually well adjusted American, as well as European, couples appear to find this method of conception control quite satisfactory.

My own evaluation of withdrawal, therefore, is that it is a legitimate method of contraception and should be considered by couples in deciding which method to employ. If you have been using it with complete satisfaction for both partners, there may be little reason to change. If you think you would be able to adjust your sexual activity to its special requirements of discipline, and, if it seems otherwise satisfactory, you may wish to give it a trial. It is always available when regular contraceptives are not at hand.

Withdrawal is probably more satisfactory in later marriage when husband and wife have established their customary sexual response, and the man is better able to control and anticipate ejaculation. Obviously the cause of slip-ups in this technique is split-second failure by the man to withdraw before ejaculation has started. Leaving even a drop of semen in the vagina is dangerous since it has been proved that the first few drops of the ejaculate contain the greatest concentration of spermatozoa. This

method, therefore, places a great responsibility on the husband.

### *The Douche*

Like withdrawal, douching is another of the older techniques. It consists of flushing out the vagina with water or a special solution immediately after intercourse in an effort to remove the semen. If the semen can be washed out of the vagina before any sperm have a chance to enter the womb, a pregnancy will not occur.

Also like withdrawal, the douche is relied on by about 7 percent of American couples. It is also popular in other countries; in France, a standard bathroom or bedroom fixture is the bidet, a special sink, over which the woman can squat, with a geyserlike column of water for douching.

The chief advantages of the douche are its cheapness and availability. Its chief disadvantage, apart from its poor rating for effectiveness, is a psychosexual one: It places the entire burden on the woman and compels her to spring out of a warm bed immediately after the climax while her husband settles into relaxed and contented sleep.

There are two main types of douching apparatus, the bag or fountain syringe, and the bulb syringe. The latter has a shield, or flange, which when pressed against the opening of the vagina keeps the water from flowing back out until after the vagina has been filled. The bag syringe may be suspended from a wall hook or shower rod so that it is a few feet above the level of the hips. This height allows the water to flow in gently. When the bag is used, the opening of the vagina should be held closed to permit

the fluid to reach the deep recesses of the vagina and to flush it thoroughly; when a moderate vaginal pressure is felt, the lips may be released to allow the water to gush out. Be sure to avoid too strong water pressure while douching, since this may force some of the solution into the womb. The douche is repeated several times. With either the bag or the bulb syringe, it is best to take the douche while sitting astride a toilet seat.

The late Dr. Abraham Stone, in his book, *Planned Parenthood*, lists four important rules concerning the contraceptive douche:

1. Use a nonirritating but highly spermicidal solution.
2. Distend the vagina by slight pressure.
3. Flush with a gush.
4. Douche *immediately* after intercourse.

Douching solutions should be at a comfortable temperature; there is no special contraceptive value in either a very warm or a very cold douche. The solution may be plain water or spermicidal substances may be added. Complicated chemical formulas are unnecessary and some—particularly those containing phenol—may be dangerous.

The following solutions are safe:

*Lemon juice or vinegar*: two tablespoons per quart of water.

*Alum*: three tablespoons per quart.

*Castile or white soap*: dissolve a half-inch cube, or two tablespoons of white chips, per quart.

That the douche is effective at all is rather remarkable. Recent studies at the Sanger Bureau have shown that within three minutes after intercourse, the mucus within the opening of the cervix is already swarming with spermatozoa, and some have even penetrated high up the cer-

vical canal. Perhaps a douche under pressure washes out part of this sperm-laden mucus in addition to cleansing the vagina. We know also that the process of fertilization requires more than a few spermatozoa (although only a single sperm cell actually accomplishes conception), and an immediate douche certainly reduces reinforcement of the first sperm to reach the cervical canal by the hundreds of millions of others deposited in the vagina. Perhaps the douche works by keeping the sperm total below the number needed to assure fertilization.

In almost every survey of popular contraceptive methods, the douche is the least effective on the list. I hasten to add, however, that it still provides more protection against unwanted pregnancy than no effort at contraception. And it is certainly better than nothing in an emergency when other, more effective, contraceptives are not available.

### *Vaginal Sponge*

The plugging of the upper vagina previous to intercourse by leaves or other barriers has come down to us since before the birth of Christ. This technique is discussed in the early Hebrew Talmud and in one of man's first texts on gynecology, written by the famous Greek physician Soranus in the second century.

Natural sea sponges have been recommended as vaginal plugs for hundreds of years. Finely grained rubber bath sponges have been substituted for them recently. A piece of sponge one-half to three-quarters of an inch thick and two to three inches in diameter is cut out and a string

tied to one edge. A spermicidal substance such as bland white or Castile soap is rubbed on the moistened sponge to create a lather before insertion. Soap occasionally irritates the male, and, if so, one of the alternative substances listed below should be used with the sponge. The sponge is inserted into the vagina as deep as possible, and left in place for at least six hours. If its bulk causes discomfort and the woman is required to remove it sooner, she must take a lemon or vinegar douche before pulling the string to dislodge it. If the sponge remains in place for the six full hours, a douche before removal does not add to the safety of the method.

A commercial foam powder containing a foam-producing chemical, to which have been added starch to give it bulk and paraformaldehyde as a spermicide can be sprinkled on the moistened sponge before insertion. Another technique is to smear a contraceptive jelly or cream over both surfaces of the sponge before introducing it.

The only advantages of the sponge are that it does not require a medical examination or medical instruction before use, it is easily secured, and it is cheap. The objections are that it may irritate one of the sexual partners, its bulk may be found objectionable, and unquestionably it is inclined to be messy.

The sponge is only moderately effective in preventing pregnancy. Its efficiency rating probably lies between withdrawal and the douche.



## CHAPTER EIGHT

### *Which Method for You?*

IN THE PRECEDING CHAPTERS, I have described thirteen different birth control methods. Since there is considerable individuality in the contraceptive needs and tastes of both men and women, a variety of techniques is indeed desirable. However, it is bound to be confusing and makes a choice difficult. This chapter is designed not to choose a method for you, but to help you and your spouse make that selection.

Individual differences are especially marked in the area of sexual behavior. Sexuality is a composite of inherited glandular structure, emotional makeup, age, parental example, religious background, schooling, early sources of sex information, previous sex experience, attitudes of friends, and a host of other factors. Marriage introduces a further complication because the sexuality of two separate individuals must be fused to create a suitable pattern for them as a couple.

Reproductive organs are far more similar physically among humans than is their ability or attitude in using them. As far as science can determine, the amount and character of sex chemicals or hormones circulating in the blood of the sexual ascetic is the same as in a person who is sexually athletic. The differences lie in the individual's reactions to these chemicals. This fact has led me to observe to succeeding classes of medical students that "sex has more to do with what's above the neck than what's

below the waist." Since birth control is so closely related to a couple's sex beliefs and practices, therefore, the ideal contraceptive for Mr. and Mrs. A may be utterly repugnant or unmanageable for Mr. and Mrs. B.

### *General Guidelines*

How, then, should a particular couple go about choosing the birth control method best suited for them? Both medical facts and personal attitudes must be considered, of course. Also important are the way the couple live, the stage of their marriage, and their particular objective for using birth control at this time.

To newlyweds—or other beginners in the use of contraception—my initial advice usually is: *be experimental*. Try several methods before you decide which comes closest to being best in all ways for you as a couple. Learn as much as you can about the different techniques, and discuss them with a knowledgeable physician or visit a Planned Parenthood center.

You will never know if one technique functions better for you than another unless you can judge from personal experience. Experimentation in sex is good, not only with different positions for intercourse, but also with different methods of birth control. There is no better way to discover a method suited to your own way of living—and loving.

To couples who have been married for some time, I often say this: If you have been practicing one method of birth control with effectiveness and satisfaction, you would be foolish to change to some other method because

a book, or a doctor, or a friend rates your current method poorly. But, if the technique you are now using is burdensome, distasteful, or inhibiting to either sexual partner, you would be foolish *not* to change. Some other method may well prove much more satisfactory.

If your reasons for practicing birth control shift during the course of marriage, you may wish to change your birth control method: Maximum protection is usually sought early in marriage to postpone the first pregnancy until the couple has settled down, and also later, after the desired number of children have been born, to limit family size. The biggest factor in choice of method at these times normally is its rated reliability. During the years of family growth on the other hand, a simpler though less reliable technique may be adequate for child spacing and more pleasant to use.

Particular circumstances—domestic or physical—also may call for a change of method: A reduction of privacy in bedroom or bathroom arrangements might make simpler contraception necessary. Or as a man gets older, he may find it more difficult to maintain a firm erection while using a condom. Or a wife may discover, after the birth of several children, that her relaxed vaginal tissues will no longer hold a diaphragm securely in place.

One good reason to try another kind of contraceptive is completely psychological: distrust by either husband or wife in the safety of the method they have been using. Since sexual response and pleasure are so dominated by one's mental attitudes, it is very important that both partners feel secure about the effectiveness of their birth control technique.

*Relative Effectiveness*

I am sure you would like me to tag each method I have described with a precise mathematical success rating; I'd like that, too. It would be most helpful to be able to say that a certain method provides 98 percent protection against impregnation, while another method provides only 91 percent protection. Such exact statements, alas, cannot be made by an honest physician.

We simply do not have enough unbiased facts to permit such fine comparisons of success and failure among the several contraceptive methods. For one thing, it is more difficult to obtain reliable statistics in tests of contraceptives than of most other drug products. Also, the statistical picture is changing rapidly with the introduction of new methods and the modification of old ones.

Nonetheless, sufficient evidence is available about many methods to assess their effectiveness with considerable accuracy. It does not enable us to rank the methods exactly, but it does permit us to set up several groupings, with the most reliable at the top and the least reliable at the bottom.

- |           |                                |
|-----------|--------------------------------|
| GROUP I   | Oral pills.                    |
|           | Intrauterine devices.          |
| GROUP II  | Diaphragm plus jelly or cream. |
|           | Condom.                        |
|           | Cervical cap.                  |
| GROUP III | Aerosol vaginal foam.          |
| GROUP IV  | Jelly or cream alone.          |

*Rhythm.*

*Withdrawal.*

GROUP V    Suppositories.  
              Vaginal tablets.

GROUP VI   Douche.

This group ranking of methods is my own evaluation. It does not express the combined opinion of any organization of physicians, and it is possible that other qualified doctors would change the ratings to some extent. However, I do not believe they would change them very much.

In my opinion, the methods in the *first two groups* include the most effective known. Selection among them should be primarily a matter of personal choice based on religion, previous sexual experience, previous contraceptive practices, age, marital status, housing arrangements, and health factors.

If a couple has the free choice of using any method, they are wiser to choose a technique from Groups I or II, since there is considerable evidence that they outrank the other methods in reliability by a wide margin. The methods in these first two groups also are advisable during those periods in married life when near-absolute protection is required—because an unwanted pregnancy would be most difficult, or because a serious medical condition makes another pregnancy hazardous.

Some couples, on the other hand, may prefer the simplicity of the aerosol vaginal foam, jelly alone or vaginal tablets. Roman Catholic couples who follow the teachings of their Church may only select the rhythm method.

The foregoing generalizations should be applicable to a large percentage of couples. Somewhat more detailed advice may be useful to cover special situations, such as

the couple preparing for marriage and the couple with no previous contraceptive experience.

### *Particular Suggestions*

While I have expressed my own interpretations, my approach so far in this chapter reflects mainly the prevailing medical consensus based on a variety of statistics and other evidence. But when it comes to discussing the advisability of a certain birth control method in a particular kind of case, I am bound to assert more personal judgments, reflecting my own professional experience over three decades of medical practice, and to some extent, inevitably, my own prejudices.

For *newlyweds*—especially when neither bride nor groom is experienced in contraceptive use—my strong recommendation is that they first consider either the pill or the diaphragm. Either of these methods requires consulting a physician since the pill is sold only on a doctor's prescription and the diaphragm must be fitted and its user given instruction.

If the bride-to-be chooses the pill, it is wise for her to take it experimentally for a month or two before marriage—to determine its physiological effects on her as an individual. She should take one steroid tablet daily with her largest meal for three or four days to see if she is among the majority who tolerate the drug well. If not, she should attempt to control any gastrointestinal side effects with antacid tablets after the meal, as noted in Chapter Five. Should this fail, she should try another brand since

each has a slightly different formula which may be tolerated better by some women. In a case where the woman cannot take any of the pills, of course it is wise to discover this before her wedding day. When this tendency toward nausea does occur, it usually disappears in a few months, but it would be sad indeed if the bride became ill from the pill on her honeymoon!

The bride-to-be also must realize that she has to begin taking the pill daily, on the fifth day after the onset of the menstrual period *before* her marriage, to ensure protection.

The great advantage of the pill, in addition to its virtually complete protection against impregnation, is that it permits wholly spontaneous sex relations. Reliance on equipment and preliminary preparation is entirely eliminated. This makes the pill especially attractive to newly married couples who are eager to begin their sex life together freely and naturally. Moreover, since the use of the pill will enable a woman to control when her next menstrual period will be, some brides-to-be will choose it in order to be certain to avoid menstruation on the honeymoon.

Many women, of course, will prefer the diaphragm. If the bride expects to include the diaphragm as part of her trousseau, she must consult a physician at least two weeks before her wedding date. The doctor will dilate the natural opening in the hymen, if necessary, in order to fit the diaphragm, and he will instruct her in its use. He will tell her to practice the insertion and removal of the diaphragm several times at home, and then return to him so that he can see if she has learned to place it correctly. After the honeymoon the bride should revisit her doctor to make

certain that the diaphragm is large enough; not infrequently the virginal vagina is enlarged by intercourse so that she will require a slightly larger size after a few weeks of marriage.

The various requirements and trips to the physician involved in the proper prescription and use of the pill or the diaphragm-and-jelly method—especially the latter—may cause some women to choose a simpler technique, such as the highly protective aerosol cream. Some women may prefer one of the slightly less protective nonfoaming creams, or perhaps a jelly will be aesthetically more agreeable.

If the groom is experienced in the use of the condom and does not dislike it, this method may be advisable for the honeymoon. However, it is often unsatisfactory for use on a wedding trip since the excitement of that occasion may cause a premature ejaculation while the sheath is being drawn on. If the bride is a virgin, lubrication by both parties with a contraceptive cream or jelly, after placement of the condom, may be helpful for the first several days. Husbands and wives who find the condom mutually satisfactory will have little cause to switch methods later since the condom ranks among the most effective contraceptives.

When rhythm is the method chosen, the bride-to-be will have to plan carefully for some time in advance of the wedding. She should keep a written record of her menstrual dates for a year before marriage, determine her longest and shortest cycles, and apply the formula described in Chapter Six to the calculation of her fertile period. She may also want to keep a record of basal temperatures for some months before the wedding and to



consult a qualified physician. The important thing to remember, of course, is that planning for use of the rhythm method must begin *before* the ceremony, not afterward.

*After marriage is established*, continued use of either the pill, diaphragm, condom, or the creams and jellies is recommended since all of these methods are highly protective.

If a husband and wife are not too concerned whether a pregnancy occurs now or later, the use of rhythm frees them from the burden of contraception for most of the month and yet affords moderate protection. During the fertile days of the midcycle, use of the aerosol cream or a nonfoaming cream or jelly alone is simple and yet highly effective.

### *"Time and Money" Factors in Choice of Method*

In selecting a birth control technique that suits your personal needs and the ways you and your spouse most enjoy intercourse, it may be useful to review the various methods in terms of *when* they are used—the precise timing of their use in relation to the sex act itself.

At one extreme, there is withdrawal—interruption of intercourse before the male climax. At the other extreme is the pill—which may be taken at any hour of the day on twenty consecutive days quite unrelated to the time of sexual relations—and an IUD, which may have been inserted months or years ago.

Between these extremes, there are numerous variations. The condom requires interruption of sex play before intercourse, at some moment after the man achieves a firm

erection. Contraceptive jellies or creams for use alone are applied not more than an hour before intercourse. The diaphragm and jelly method may be applied at bedtime though intercourse need not occur for several hours and still protection is retained. The cervical cap, which may be left in place during the whole time between menstrual periods, need be applied and removed only once a month.

While the "ideal contraceptive" is usually defined by physicians to include the requirement that it can be applied or taken at a time completely removed from intercourse and still give complete protection, this apparently is not too important to many couples. Some wives reduce the insertion of the diaphragm at bedtime to such a regular routine that it can hardly be called an inconvenience. The pill, which has the advantage of requiring no timing related directly to intercourse, has the disadvantage of requiring absolute regularity of use, regardless of whether intercourse is expected or occurs on a particular day.

In choosing a method, the question of cost also may present itself. Selection of a birth control technique should not have to depend on cost, but for some couples, unfortunately, it can be an important consideration; moreover, it deserves comment simply to dispel false notions. I recall a series of interviews with young couples in Washington, D.C., which disclosed that some did not seek birth control guidance or materials for fear they "would cost too much." Indeed the cost of visiting a private physician for a contraceptive prescription may be a genuine obstacle in some cases, but Planned Parenthood centers throughout the country follow a policy of helping meet the cost of their excellent medical service for those who cannot afford it.

The cost of birth control materials differs with the method, of course. Fitting a diaphragm may cost \$15, but this investment should last for years. The jellies and creams used either with the diaphragm or by themselves cost about \$2 for a tube which normally lasts more than a month; in some discount drugstores, the price may be less. The aerosol bottle of foam costs about \$3 and will last about three months. A month's supply of condoms costs about \$2; this can be reduced by buying in bulk, or by washing the condoms after intercourse and using each one several times. The oral pills cost \$2.25 for a month's supply. Foam tablets are less expensive; rhythm requires no materials, or only a thermometer; and withdrawal costs nothing at all, except masculine self-discipline. The charges made by physicians for the insertion of an intrauterine device vary markedly from doctor to doctor. I have been told the rate may be as low as \$15 or as much as \$100.

### *Special Problems*

1. The diaphragm and the vaginal creams and jellies are not advised for women who are uncomfortable about fingering their own genitals. The pill, an IUD or the husband's use of a condom are more suitable for them.
2. During lactation—before menstruation begins again after childbirth—women are less fertile than usual but not sufficiently infertile to make use of birth control unnecessary. When intercourse is resumed after the birth of a baby, contraception must be used if another pregnancy is not wanted. Since the chance for impregnation is less before menstruation resumes, foams, creams and jellies should give adequate protection.

3. Obviously contraceptives do not have to be used during pregnancy. Intercourse during pregnancy is not the cause of twins as the ancient Jewish Talmud indicated.
4. Removal of the semen from the vagina after intercourse by the finger or a washcloth is very inefficient contraception and should never be depended upon.
5. I do not recommend withdrawal, not because it is useless, since it can be used effectively, but because there are many more efficient methods which at the same time are much more enjoyable. Nonetheless it is good to remember that withdrawal can always be used in an emergency when no other contraceptive method is available.
6. As a woman nears the menopause she must still use birth control to prevent conception. We advise continuance of birth control until twelve months after her last menstrual period.

### *A Summary Note*

In this chapter we have dealt with the advantages and disadvantages of many methods in terms of the question, "Which method for you?" All things considered, and aside from special medical requirements in some cases, it is evident that *you should use the method or methods you will find most acceptable and satisfactory*. After carefully studying the experience of couples throughout the United States, the Medical Committee of the Planned Parenthood Federation of America came to this conclusion:

*It is deceptive to think only in terms of any method's statistical effectiveness rating—since the major cause of*

*birth control failure is irregularity of use.* A method may chalk up a near-perfect reliability of 99 percent in clinical tests, but, if a particular couple on a particular night leave the method "on the shelf," the result is liable to be either a boy or a girl. The method *liked best* by a couple is generally the method they will *use most*.

The simple but profound truths of contraceptive experience can be summarized in the following two axioms:

1. *Any* birth control method is better than *no* method, but at the same time it must be recognized that methods vary markedly in terms of effectiveness.
2. The most *effective* method for the individual couple is the best method they will use *consistently*.

### *How to Succeed in Family Planning*

ONE OF A PHYSICIAN's happy tasks is to confirm a pregnancy for a man and wife who eagerly await the good news. I have enjoyed making this announcement hundreds of times. But on other occasions I have had to announce the same news to women, and their husbands, who were afraid and shocked to hear it. I have not yet devised a formula for remaining aloof from unhappiness about an unwanted pregnancy, or a way to handle these pathetic situations with the grace I feel they deserve.

"What am I going to do?" the woman asks—sometimes in tears. Then, usually, she pulls herself together, and may even try to joke about it: "Well, here we go again." Often, the unplanned baby will require quite a rearrangement of family life. A typical situation is that the youngest child has just reached school age, and the mother is looking forward to a slight respite from the demanding early years, or perhaps even to taking a job so there will be extra income to provide for the children she already has. Frequently the woman will ask with eloquent simplicity: "What went wrong?"

More than one-fourth of *all* birth control users interviewed in the Growth of American Families study had occasion to ask this question; *they reported that at least one of their pregnancies had been accidental*. The GAF study authors calculate that the American couples with

families larger than they intended “still number in the millions,” and observe that “the fact that most of them have only one or two more children than they want is not much comfort to the couples themselves.”

Why do some couples fail in their efforts to prevent pregnancy? We know, of course, that even the best methods of contraception are not 100 percent certain, although the pill and perhaps the intrauterine ring are approaching it. But many millions of couples have used birth control of different kinds with complete success. Hopefully, by now, you have selected a method suitable for your personal needs and tastes. In this chapter, I want to help *make birth control work for you*. The experiences other people have had—their successes and failures—may be a helpful guide.

In the first place, it is important to recognize that today's birth control amounts to self-medication. It is a practice that only the individual user can apply. Someday there may be ways to prevent pregnancy by creating temporary sterility in the husband or wife with a simple injection. This would reduce the individual's role to one of merely volunteering for inoculation, and after that he or she could forget it until the next shot was due. But such is not now the case. All birth control methods available today require the continuous cooperation of the user, except for the ring which is not generally available since it is still experimental. Thus the way the man or woman—or the two of them together—think and feel and act with regard to birth control may be quite as important as the technique they employ.

The medical profession itself, I fear, often contributes to birth control failure when a physician insists that a

woman use the method *he* thinks is best regardless of how unhappy she may feel about it. This "I-know-what's-good-for-you-and-you-do-it" approach is the manner of too many doctors, and it backfires frequently when applied to prescribing birth control. Of course the doctor may say that he believes it is unethical for him to prescribe anything other than the method he is personally convinced is most effective. But the result may be that the woman simply rejects, or honestly cannot bring herself to use, the method prescribed—and effective pregnancy prevention is defeated at the outset. Therefore, it seems more ethical to me to regard as the *best* method, in each case, the most reliable one that she is willing to accept and use regularly.

It is a good thing for doctors as well as their patients that we have begun to learn a number of important lessons about success and failure in the use of birth control from new studies now being made by social scientists. It is fascinating to me as a physician to follow these investigations and discover how their results fit in with—sometimes correcting, sometimes reinforcing—what we doctors have learned from our own experience.

One of the most fruitful studies of this kind to date was conducted by Dr. Lee Rainwater of Social Research, Inc., for the Planned Parenthood Federation of America. It involved lengthy confidential interviews with one hundred married men and women in Chicago and Cincinnati. Many kinds of people participated. Some had achieved their goals in the use of birth control and some had failed. All of them permitted the skilled and sympathetic interviewers to delve deeply into their individual experiences with sex and birth control, in the context of their total married lives. I shall present here a series of vignettes, or capsule



case histories, based partly on these interviews and partly on information from my recollections and the records of the Planned Parenthood Federation. Then I shall attempt to distill from this "real life" material several axioms, or generalizations, which may help ensure your own successful birth control practice.

CASE ONE—"I didn't know anything about sex when I got married. My mother scared me plenty when I was thirteen by telling me not to let any boys go loving over me, not to let them put their hands on me even, or I would wind up with a baby. Before I was married I didn't even know how a baby was born or how you got pregnant—except that it took a boy to do it. My mother told me a few things the night before my wedding, but it wasn't very clear. After that, I sure found out fast, didn't I—with three little ones already? What I know about having babies, though, doesn't seem to help me *not* have them—except by staying out of bed with my husband, and neither of us want that."

CASE TWO—This young mother of four confided, in some confusion that "two babies ago" her doctor had tried to tell her about the process of conception and how to control it, but "I was just too ashamed to listen." She talked to the interviewer about sex and birth control earnestly but with obvious difficulty. At the time of her marriage, she said, everything about sex embarrassed her; she had been told since childhood that it was "dirty" and "sinful." She now endured intercourse as a duty. Recently, the burdens of child care and repeated pregnancies finally drove her to seek birth control help—by writing a letter to a magazine.

Then she forced herself to mention birth control to her husband. Some time previously, he had tried to talk about it, but she reacted with such acute discomfort that he dropped the subject. Finally, they were able to discuss it, and with some tender reassurance from her husband, she has trained herself to use the diaphragm.

CASE THREE—The case above had the saving feature of eventual agreement between husband and wife, once they were able to discuss the subject satisfactorily, on which one would be responsible for birth control. Some couples are not able to come to terms on this. "My husband won't do anything at all to keep me from getting pregnant," one woman said. "He says if I don't want more children, it's up to me to use the prevention. I think that should be his job. It would be easier for him to use something; after all he's the one who gets the fun out of it—not me. I'm just the one who has to have the babies and take care of them, that's all. He doesn't even want to talk about birth control, let alone do anything." In this marriage, birth control is one of several subjects that cause a running battle. The wife complains that her husband refuses to take responsibility for birth control, but she will do nothing about it herself.

CASE FOUR—Like most doctors, I have my favorite stories concerning the women and men who "always—well, almost always" use birth control when they wish to avoid pregnancy. There is the one about the devout matron who expressed indignation when she became pregnant even though she was equipped with the very best diaphragm money could buy. "Did you use it regularly?" I asked her.

"Of course," she promptly replied. "Every time you had intercourse—every single time?" I persisted. After some fuming, she answered. "Well, I use it *regularly*, every day but Sundays. That's my day of rest!"

Many other case histories could be presented to describe variations in the patterns of attitudes and behavior connected with birth control failure. Most failures result from a combination of causes. The foregoing cases help spotlight the following common factors:

### *Lack of Information*

Case One shows the kind of ignorance about "the facts of life" that is still widespread even today. Many men and women know next to nothing about sex and reproduction at the time of marriage. Schools, parents and other well meaning but ill advised "advisors" manage—often deliberately—to leave a blank space on this subject in the young person's mind—with the frequent result that the void becomes filled with all kinds of half-truths or outright myths.

The Social Research investigators found that those who knew the least about sex anatomy and reproduction at the time of marriage, or did not learn these basic facts early in marriage, frequently failed to use birth control effectively.

### *Unhealthy Attitudes*

A certain amount of reticence over such an intimate subject as sex is inevitable and natural, but when it is exces-

sive or mixed with shame and guilt, it becomes a serious obstacle not only to sex satisfaction but also to effective birth control practice. In the Social Research study it was found that *more than two-thirds of the women who failed at birth control had a basically unhealthy attitude toward the sex relationship and said they derived little or no pleasure from it.*

Case Two provides a classic example of how prudish, antiquated attitudes can hinder effective contraceptive use. In many cases, such feelings about sex make it impossible to deal with the mechanics of birth control—until the feelings are changed. The striking thing about Case Two is that the couple finally brought their reproductive capacity under control even while the wife's distaste for sex persisted.

### *Divided Responsibility*

When neither marriage partner is willing to accept responsibility for birth control, it is not unusual to find that the marriage is complicated by other problems or disagreements. Conflicts naturally tend to reduce the sexual compatibility of man and wife. Either partner may express resentment by refusing to be "the one who does something" about birth control.

Often such couples may have made sporadic efforts at family planning, with scant success. At times they may recognize that effective contraception could help their marriage by removing the tensions stemming from fear of pregnancy, but it is difficult for them to stabilize their relationship long enough to make birth control work.

### ***Communications Failure***

"He doesn't even want to talk about birth control," said the wife in Case Three. And the young mother in Case Two was "too ashamed to listen" when her physician talked to her about sex and reproduction. In these cases, *failure to communicate*—to give or receive information—about birth control may be the result of underlying personality difficulties, which in turn contribute to birth control failure.

If effective communication can be established on the subject—between physician and patient or husband and wife—birth control has a much better chance to succeed. In Case Two, once the wife managed to talk about and listen to birth control facts, she gradually worked out an agreement with her husband for effective contraceptive use.

### ***Irregular Use***

All things considered, irregular use is probably the most common factor in birth control failure. Sometimes, as in Case Four, the situation is so ridiculous that it is hard to take seriously; it is a worthy idea that anyone deserves occasional relief from life's chores, but getting a wee bit careless about birth control often results in getting a wee bit pregnant.

More often, irregular use is the result of other things that are not funny at all—divided responsibility about con-

traception or unhealthy attitudes toward sex. Situations such as in Case Three are usually characterized by irregular contraceptive use, if birth control is practiced at all. And the woman who finds intercourse distasteful anyhow sometimes cannot regularly prepare herself for intercourse by taking contraceptive precautions. She "doesn't even want to think about it" beforehand—and afterward it is too late.

*The simple truth is this:* With contraception, there is no such thing as time off for good behavior. This is something we all must face up to. Just because a person has been conscientious for five or ten years about birth control does not mean that one can be careless without risking unwanted consequences. Probably husbands are more frequently remiss about regular birth control use than their wives; as one woman put it, "I not only have to bear the consequences—I have to stay home and raise them."

Anecdotes about inconsistent birth control use are sometimes amusing. But the results—in the form of unwanted and often neglected children—may be tragic.

I have dwelt at length on the difficulties and failures in birth control practice; now what about the successes? After all, many more Americans succeed than fail in their use of contraception. Is this success always a triumph over rocky obstacles, or is there such a thing as birth control "made easy"? Like any other technique that must be taught and learned, effective birth control is easier for some than others. Many couples have no difficulty at all; others find it hard at first, then quickly master its use; still others have more persistent birth control problems.

There is no magic key to birth control success, but there

are some very strong influences. One is possession of sufficient basic information about sex anatomy so the couple can understand how the particular method they have chosen must be used to be effective. Another important influence is the ability to enjoy the sexual union in marriage. Sex knowledge and sexual enjoyment often reinforce each other.

Sexual satisfaction for many women is not an automatic dividend of matrimony, to be sure. One woman told an interviewer: "Before I was married, I was afraid of sex. I thought it was a crime to do something like that. I knew it was supposed to be all right when you were married, but I couldn't look forward even to that. But now, I can only say it like this: If God made anything better, he kept it to himself. When my husband and I are together like that, it's the most important thing in the world." This woman entered marriage with some fears about sex, but they have been replaced with pleasure—through learning and experience. Her case history discloses that her husband was fairly well informed about sex anatomy and the reproductive process and shared this knowledge with her. And together they learned—from books and pamphlets, mainly—the facts that neither of them knew before. It is no coincidence that this couple likewise learned the facts needed to practice birth control successfully.

Nor are such cases unusual. The Social Research study found that *almost three-fourths of the women who practiced birth control successfully also enjoyed their sex relationship*. Survey results show further that wives who enjoy sex usually have intercourse with their husbands much more frequently than wives who find sex distasteful. One might expect that greater frequency of intercourse would

increase the number of accidental pregnancies; but this tends not to be so, because so many couples in this group use some form of contraception effectively.

*Enjoyment of sex* is a fairly broad phrase. In relating this to successful practice of birth control it may be helpful to explore what sexual enjoyment in marriage means to different people. Some men and women think of sex mainly in physical terms, such as this young wife: "All I have to do is look at my husband. I always wear a thin nightgown, and I take it off and say, 'Honey, tonight is the night!—Everybody else is going to the moon, I might as well go to heaven.'" Obviously, such individuals have no feelings of shame to overcome; they accept their own sexuality fully and joyously. Men and women of this nature usually have little difficulty in learning the anatomy of sex and, if they choose, the practice of contraception.

Not many of us, perhaps, approach sex with such unabashed gusto. But both a richly satisfying sex union and effective birth control practice can be achieved also by people who think of sexual satisfaction mainly in *nonphysical terms*—in the broader dimensions of love. "Our times together at night are very beautiful for us," another woman said with tender reflection. "They make me feel good and assure me of his love. They are just as important to him, too." "We talk a lot to each other about it," she added shyly, "but I just can't tell you the things we say about our loving." She said nothing about the physical involvement of intercourse, but the warmth and strength of her feeling about the sexual side of marriage shines clearly through her words.

Other couples, in thinking and talking about sex, put the



main emphasis on its value in strengthening family life. Though the physical act of intercourse may be altogether exciting to them, they describe it mainly as a part of wedded togetherness. Husbands as well as wives have told me that they believe sexual fulfillment in marriage has meant most to them as an asset in raising happy children, since it helps the marriage partners to be happier with each other. The effective practice of birth control for family planning follows naturally from this approach.

It is clear, then, that no special set of attitudes is required for a richly satisfying sexual relationship; one individual may have very different feelings from another about sex and yet both find it pleasurable. Some of those whose thinking about intercourse is essentially nonphysical may be startled, even a little shocked, by the physical approach. Yet this may indicate simply a difference of individual personalities, rather than different degrees of healthiness or unhealthiness in sex attitudes.

Among all these variations, it is clear also that a happily affirmative attitude toward sex—one which says, essentially, "sex is good"—is the golden thread on which many different kinds of people string birth control success. It helps avoid or solve communications problems that often thwart effective contraceptive use. It makes it easier for the individual, at the time of marriage or before, to acquire and retain essential facts about sex anatomy and family planning. It makes it easier also for husband and wife to arrive at a mutually satisfactory decision as to who shall take the responsibility for regular birth control use.

But what happens, alas, if you do not have such an attitude toward sex? What about birth control then? Of course I hope this book will help many men and women dispel their fears and distaste about sexual love, and thereby find a happier way to birth control success. There are many couples, however, who use birth control effectively *in spite of* lack of enthusiasm by one partner or the other for intercourse. The wife in Case Two is an instance of this. She and her husband finally achieved a workable compromise between dislike of sex on the one hand and her desperate desire to control pregnancy on the other—by repressing her negative feelings—submerging them by sheer determination.

This sounds rather grim, and indeed it can be, but such a strong determination can also lead to something better: It can help a woman to outgrow her initial negative attitude toward sex. Such an effort is most likely to succeed when the wife's distaste stems from a simple fear of the unknown—a lack of knowledge—or fear of unwanted pregnancy. Adequate information about sex and birth control can help dispel her fears and hence change her attitude. Then she may begin to be more relaxed in the sexual embrace. A cooperative, sympathetic husband obviously can be a great help. When an initial dislike of sex is a result of a deeply distorted emotional approach, however, the problem is more difficult and professional help may be required to solve it.

In this chapter, we have been talking a good deal about the ways people *feel* and *think* about sex—and how this affects their ability to use birth control effectively. I used the word “feel” before the word “think” in the sentence

above because, in matters of sex especially, I believe a person's thoughts and actions are often more affected by their feelings than vice versa. The attitudes of a couple in this intimate area, therefore, may be at least as important for birth control success or failure as the contraceptive method they employ. Here are a few points to keep in mind:

1. Men and women free from the morbid idea that sex is dirty or sinful are better able to deal with the realities of making birth control work.

2. Dislike or fear of intercourse makes it harder to use birth control, but use of birth control can help overcome this dislike or fear.

3. An affirmative attitude toward sex may come naturally for some, while for others it must be painstakingly acquired. Sometimes this requires professional marriage counseling help.

4. Accurate information about sex anatomy and contraception helps make birth control easier to use.

5. These facts—including religious beliefs—concerning sex and contraceptive use are increasingly available through publications and other sources (see Appendix C).

6. Special thoughtfulness on the part of both husband and wife—with each striving to understand the other's desires and fears—is often most important to birth control success.

7. This kind of understanding about birth control is practically impossible unless marriage partners discuss the subject frankly and share information with each other.

8. The best time to make definite plans for the use of

birth control is before the wedding. The next best time is immediately thereafter.

9. And, finally, lest we forget, let me repeat: *The only way to be sure that birth control will work for you is to be sure to use the method you have selected every time.*

### *The Man's Stake in Birth Control*

IN A RECENT SURVEY of attitudes toward sex and family planning, a young mother was shown a picture of a couple and told that they were discussing a problem in their sex relationship. The woman was asked to describe what might have been the couple's conversation. This was what she said: "I think he is asking her why she is so cold toward him. She is thinking that she just wishes he would leave her alone, that she is so disgusted because she has to do that and then worry herself sick about being pregnant."

This kind of confidential interview is designed by social scientists to reveal a person's real feelings which might not be expressed in answer to a direct question. In this case, the young mother might very well have been embarrassed to state directly, in reply to an inquiry about her attitude toward sex, that fear of pregnancy has destroyed any desire she once might have had for a satisfactory sexual relationship. Yet by attributing these attitudes to the couple in the picture, she revealed clearly her own desire for her husband to "leave her alone."

By the same token, this mother spotlighted a major stake every man has in effective birth control, a major reason why it is just as important for husbands to become familiar with family planning methods as for their wives. The fundamental truth is that there is not much likelihood of a

satisfactory sexual relationship for either husband or wife if the woman approaches the marital embrace with fear uppermost in her mind. Love cannot grow in an atmosphere of constant fear.

If the woman being interviewed were unusual, there would be less ground for concern. But the facts show otherwise; case records of marriage counselors throughout the country implicate fear of pregnancy as a key factor in the breakdown of sexual pleasure and compatibility, and show how health is endangered by the consequent sexual dissatisfaction. Commenting on this interview, Dr. Robert W. Laidlaw, chief of psychiatric service at New York's Roosevelt Hospital and former president of the American Association of Marriage Counselors, said that "in my experience, this attitude is far more prevalent than we have ever recognized."

We have always known that birth control is important for family welfare and thus for husbands as well as wives. But for many reasons, birth control in America developed as a woman's movement—started by women for women. It was felt, correctly so, that since women were obviously concerned more directly with childbearing than men, they would be more interested in contraception. Moreover, some men appeared to be indifferent to the number of children their wives had—and to the suffering, illness, and anxiety that resulted. These considerations led physicians to conclude that control of contraception should best be left in the woman's domain.

In many respects, this is a perfectly sound conclusion but its application, we have discovered, left much to be desired. For many years, most efforts at birth control education were aimed at women; men learned about the con-

dom either from friends, or in the armed services where emphasis was placed on its value in controlling venereal disease.

Of course, men participated in the vast changes in attitudes and behavior, discussed in Chapter Two, which led to the widespread acceptance of birth control during the last forty years. As medical science demonstrated conclusively that the emotional and physical health of many mothers is best preserved when childbearing is well spaced and when the number of children is limited to some degree, many husbands responded as affirmatively as their wives.

The economic changes in American life also caused important changes in men's thinking. In earlier times men commonly took pride in large families as a sign of their virility, and children were regarded as economic assets. With the change from rural to urban living and with the elimination of child labor, children were no longer additional producers of income. Instead, a husband had to weigh carefully whether or not he could afford more children without depriving the rest of his family of needed food, clothing, shelter, and education. A father who accepts the idea that he must support a son or daughter for at least eighteen years usually takes a different attitude toward family size than one who expects his children to start contributing to the productive activity of the household at the age of eight or ten.

In the face of these developments, most American men began to shift their approach. Families that planned the number and spacing of their children, it was recognized, were better able to make progress financially and medically. Families that didn't, on the other hand, often were

caught up in a hopeless cycle of illness, poverty, and despair.

This change of masculine attitude was given impetus by the Great Depression of the 1930's when the practice of family limitation spread swiftly as a matter of financial necessity. It became much easier then to understand that overlarge families do not have the economic—or medical—cushion to withstand bad times.

These lessons were not lost on the generation which grew up during the 1930's, but the changes still left most men (excepting users of condoms) excluded from participation in the birth control *process*. Since most methods are designed for the woman, it was thought sufficient to instruct her in their proper use.

Following World War II, major attention began to be centered on better schooling and housing, scientific progress, and family stability and happiness—these were key postwar objectives about which millions of returning GI's felt rather strongly, and which therefore became national goals. Against this background, with its particular emphasis on wholesome family life, we began to view the husband's role in family planning in broader, more affirmative terms.

Only recently, therefore, has widespread recognition developed that birth control is a cooperative venture between husband and wife and that, regardless of the method used, the husband can act as an active partner in helping to practice birth control successfully. Family planning has now become for many the combined goal of the couple *as a couple*.

This new partnership in family planning allows either husband or wife to assume contraceptive responsibility,



depending on the couple's own inclinations and needs. To be sure, most of the techniques we have described are women's methods, but the condom is still widely used and before too many years have elapsed, we can be certain that other methods will be developed for men. Already there is research on compounds which temporarily reduce the man's capacity to produce mature sperm.

The partnership idea, moreover, goes far beyond the particular methods employed. As important as which of the partners controls the contraceptive technique is the set of attitudes both husband and wife bring to the practice of birth control. It is somewhat ironic that men who are indifferent to contraception because they feel *their* sex needs must be satisfied, regardless of the consequences, often achieve a far different result from that anticipated: Instead of a satisfactory sexual experience, those who don't want to "bother" about contraception may find that they have cut the ground out from under their entire marriage.

Listen to what wives told interviewers in the survey I mentioned at the beginning of this chapter:

"He's the one who causes it, and she will have the trouble; so he ought to think about her."

"I put him away from me now, because I'm afraid I'll be pregnant again. I don't enjoy it because I might get stuck with another baby. If I could do it and not get a baby it would be better."

These comments were made by normal American women, and by enough of them to reveal an all too frequent pattern. Doubtless many of them were thought of as "sexy" before their weddings. Doubtless, too, many were quite interested in the sexual side of matrimony when they were first married. But now the interest has died, perhaps

because their husbands were ignorant or indifferent to their needs. Instead of eagerly looking forward to their husband's touch for the comfort it should offer, they shrink away. They invent excuses. They are "too tired"; sometimes, of course, they really may be exhausted, but hardly always. They pretend to be asleep or they wait until their husbands are asleep before coming to bed. After going to the movies with some other women one night, a colleague recalls, the group stopped in a restaurant for a cup of coffee. When some time had elapsed, one of the women looked at her watch and said: "I guess I can go home now. He'll be asleep."

I do not mean to imply that fear of pregnancy is responsible for *all* the difficulties men and women have in adjusting to each other. Obviously many factors affect the quality of married life. Each marriage partner brings to the relationship his own particular experiences, beliefs, and deep-seated feelings. But an important factor that develops within marriage itself involves the prospect of unwanted children. It takes little imagination to understand that a woman who is afraid that a particular act of intercourse will cause an unwanted pregnancy cannot respond to her husband's caresses with the same enthusiasm as a woman who feels secure that she will conceive only when and if she wants to. "She is unable to let go and participate fully in the experience," Dr. Laidlaw points out. This doesn't always lead to separation and divorce. More often than not, its main result, he says, is a constant "discordant element in a marriage which continues in spite of it."

This lack of harmony, I believe, is often reflected unconsciously by men when they complain that their wives are cold or "frigid." Physicians and psychiatrists know that

frigidity is a psychological, and not a physical, problem. A woman's failure to respond usually results from the impact of many fears and unhealthy feelings about sex. Some of these may have nothing at all to do with the possibility of having children, but it is apparent that fear of accidental conception can be of major importance. Dr. Laidlaw puts it this way:

"Fear of pregnancy often plays an important part in the underlying emotional situation and leads many wives to resort to all kinds of stratagems to avoid having intercourse with their husbands. They become cold and unresponsive. . . . The result is mounting tension and unhappiness."

I have placed a good deal of emphasis on the way this fear affects marital relations only because in my opinion, among all the anxieties surrounding sex, it is one which can easily be removed. Today with the great improvements in birth control techniques and the opportunity to select from numerous effective methods, marriage can be immune from the deteriorating threat of unwanted pregnancy. There is no good reason why a couple cannot enjoy a healthy and vital sexual relationship with security and confidence on this score.

Marriages are never wholly reasonable, however, and some men act against their own self-interest by refusing to face up to reality. I am reminded of one case of a couple who had four children in six years of marriage. The husband was extremely proud of his sexual prowess and refused to use condoms, claiming they lessened his pleasure. "Betty should take care of it," he insisted adamantly. But Betty was a woman with problems: she found it distasteful in the extreme to handle her genitals and was therefore unable to use conventional female contracep-

tives despite her fear of unwanted pregnancy. The result was a standoff—and a series of crises in the marriage. The result, also, needless to say, was that this young man had considerably less opportunity to demonstrate his sexual prowess than he otherwise might have had.

I believe strongly that marital happiness can be helped to flower if men learn that they too have a role in birth control. When I talk to young grooms, I point out that their job is to learn enough about birth control and the requirements of each method to be able to work out a satisfactory approach with their brides. This requires patience, consideration, understanding, and perhaps compromise. Surely it should involve frank discussion between husband and wife.

But it is well worth the effort. It can liberate the sexual relationship and help to bring about what almost every man considers a primary goal in marriage: an exciting and satisfying sexual life with his mate.

## CHAPTER ELEVEN

### *What Birth Control Is —and Isn't*

IT HAPPENS EVERY DAY—in New York, Wichita, San Diego, or Everytown. If the scene is a park, two young mothers are perhaps pushing their strollers; if it's a kitchen in one of the new developments of ranch houses, they are most likely having coffee. They talk about their problems and trade recipes or ideas on how to cope with rebellious Johnny. As the conversation gets more personal, it's not unusual for one of the mothers to raise the subject of birth control.

"But I was told that birth control can hurt you," says the other.

And there you have it. More women have been "told" more myths about birth control than perhaps about any other medical procedure. It sometimes amazes me to realize that I keep answering many of the same questions about contraception as I did twenty or thirty years ago. Myths have a slow death.

In this chapter I should like to review briefly some of the questions patients ask most frequently about birth control and I shall try to give frank, clear-cut answers.

#### *Is Birth Control Harmful?*

No, absolutely not. There is no evidence that the birth control methods I have described are harmful. Birth con-

trol has been recognized as an important part of medical care by numerous professional organizations, including the American Medical Association, the American Public Health Association, the New York Academy of Medicine, and many specialists' groups and state and county medical societies. Contraceptive products are advertised in medical journals and have to be passed by the U.S. Food and Drug Administration before they can be sold. Whether you hold the medical profession in high or low esteem, you would have to be paranoid to believe that the overwhelming majority of American doctors would endorse—and prescribe—a medical technique if there were any doubt of its safety.

### *Will It Cause Cancer?*

Emphatically no. There is no evidence that any of the methods discussed in this book cause cancer or any other disease.

### *Is It Like Abortion?*

No. Abortion is an operation performed to destroy an embryo or fetus after it has been started by the union of sperm and egg. Birth control prevents that union by making it impossible for the sperm to meet and unite with the egg. Birth control is not an operation and does not destroy life. It is utterly different from abortion.

***Will It Prevent a Woman from Having a Baby  
When She Wants One?***

No. All of the methods of birth control that we have described are easily reversible. When you want to have a baby, all you have to do is to stop using the method and have intercourse without contraceptive protection.

***Will It Interfere with Sex Pleasure?***

No. In fact, it should increase sexual satisfaction by removing the constant fear of unwanted pregnancy that leads many women to avoid sexual relations with their husbands. Once this fear is removed many women find it possible for the first time to respond naturally and happily to the sexual embrace.

***Is It Illegal?***

The use of birth control is perfectly legal in every state except Connecticut, and even there, as the U.S. Supreme Court pointed out in 1961, the State has followed "an undeviating policy" of failure to enforce its law against contraceptive use. Birth control is widely practiced and birth control products are sold in *all* states.

*Is It Expensive?*

For some low-income couples, the cost of some birth control techniques may seem high, though any method is still much less costly than the delivery and rearing of an unwanted child. Average monthly costs for each method are given in Chapter Eight. If the prices I've mentioned are too steep for your budget, go to your nearest Planned Parenthood center or try the clinic in your local health department or public hospital. If the clinic tells you it doesn't provide birth control, ask the doctor or nurse to explain why—and tell your minister about it. There is no valid medical, legal, or religious reason why all methods of birth control should not be available in tax-supported medical facilities.

*Is It Immoral?*

The simple answer is no, since communicants of all faiths, including Catholics, can select a method of birth control which is approved by their religion. For a summary and discussion of religious attitudes toward birth control, read the next chapter.

*Does a mother breast-feeding her child need to use contraception to avoid pregnancy?*

Yes. Before menstruation begins again after childbirth, while the mother is lactating, she is less fertile than usual,



and this has led many women to assume that contraception is unnecessary during that period. However, the reduction in fertility is not sufficient to provide assurance that the woman cannot become pregnant. If pregnancy should be avoided, therefore, the breast-feeding mother should use contraception.

*Does a woman need to use contraception during her menopause?*

Yes. We usually advise use of contraception to avoid pregnancy for 12 months after the last time she menstruates.

*What the Churches Say About  
Family Planning*

I AM A PHYSICIAN and my adult life has been devoted to the study and practice of medicine. Like most doctors, my interest in religion has been personal rather than professional. In most areas of medical practice, religious attitudes form part of the general social and emotional background which may have some bearing on the patient's condition. But rarely is this relationship a direct one, in the same way that a particular symptom may be directly relevant to a particular illness. In most medical situations, the religious element is fairly vague and indirect.

Not so with birth control. I had to learn early in my career that religion is as importantly involved in the practice of birth control as the patient's medical history. This was brought home to me by a patient in 1930. She had three very young children—and a very serious heart condition. At the postpartum examination, I told her point-blank that her life would be in danger if she had another child, and that I would be happy to fit her with a diaphragm and show her how to use it.

The woman was obviously embarrassed. She hesitated a moment, then said:

"But, Doctor, I couldn't use anything like that. It's against my religion."

I didn't know quite what to say, since I wasn't sure what her religion approved. Finally I advised her to talk it over

with her pastor and tell him how serious her condition was. But I doubted that she would because she found the whole idea repugnant. I didn't feel very proud of myself that day because my knowledge of the various religious attitudes was inadequate.

The woman had been a Baptist and had I known then what I learned later about the religious attitudes toward contraception, I could have helped her. This incident, and others like it, compelled me to do some homework in the field of theology.

That was more than thirty years ago, but I am astonished at how many patients—and physicians and public officials, for that matter—are still misinformed on this today, despite the many religious pronouncements which have been made and widely publicized in recent years. It takes a long time, it seems, for information to filter down from the high officials of a national religious denomination or group to the local church and its minister—and then into the beliefs of his parishioners.

In this chapter, I shall summarize what the various church groups say about birth control. These digests are based not only on my own reading and study, but also on assistance from clergymen of all faiths. While I would not claim to be a theological expert, I believe this summary is accurate. I trust it will also be informative to many who have not had the opportunity to discover what the churches actually say on this subject.

Before discussing the views of each denomination, there is one major point I'd like to emphasize because it goes directly to the heart of the many misconceptions people hold. The point is simply this: *All* religious denominations approve of the objectives of family planning and *all* of

them approve of *some* method of birth control to achieve those objectives. The only disagreement among religions is on which methods are permitted. This disagreement is not negligible, to be sure, but neither is it as intense as one would expect from the bitter battles which have been waged over birth control in recent years. On the contrary, I would say that if the extent of religious agreement on birth control were more widely understood, such heated controversies would be most unlikely.\*

This point is of great importance to doctors and patients alike, for it means simply that there is a permissible method of birth control available for every couple who want to plan their family, whatever their religious belief may be. It is the doctor's obligation to help the couple select a method which is morally acceptable and agreeable, and then to give instructions in its use.

With this in mind, let us turn now to an examination of what the major religious groups have to say about birth control.

### *Protestant*

Many of the major Protestant denominations approved of family planning in the early      . During the last decade they have again studied the problem, and it is quite evident from the many statements which have been issued that Protestant opinion is now virtually unanimous in giving vigorous endorsement to birth control. This was

most forcefully demonstrated by the strong statement adopted in February, by the General Board of the National Council of Churches of Christ in the U.S.A., the federation of twenty-five major Protestant denominations with approximately 37 million parishioners in the United States.

The Protestant attitude toward birth control stems from the Protestant view of the basic purposes of marriage. These purposes include not only parenthood, but equally important, the nourishment of the mutual love and companionship of husband and wife, and their service to society, as the National Council statement declared. Since these purposes are of equal importance, it is permissible to use birth control which may prevent procreation but help to enhance the other marital objectives of companionship and service.

The National Council of Churches pointed to several major factors which couples should take into account in determining the number and frequency of pregnancies. These include the right of children to be wanted, loved, and educated; the health and welfare of the mother; and socioeconomic conditions. When couples decide conscientiously that these considerations rule out another pregnancy for the time being, they are free to use any acceptable birth control method.

"Most of the Protestant churches hold contraception and periodic continence to be morally right when the motives are right," the Council pronouncement pointed out. "They believe that couples are free to use the gifts of science for conscientious family limitation, provided the means are mutually acceptable, noninjurious to health and appropriate to the degree of effectiveness required in the

specific situation. Periodic continence (the rhythm method) is suitable for some couples but is not inherently superior from a moral point of view. The general Protestant conviction is that motives, rather than methods, form the primary moral issue. . . .”

The National Council statement of doctrine followed a series of pronouncements by individual Protestant denominations. In general, these statements were designed to clear up whatever confusions were left by earlier statements and express the forthright approval of birth control which had been emerging among Protestants for several decades. I have space here only to sketch the most important of these developments.

In the Methodist Church, which is the largest single Protestant denomination, adopted the unequivocal position that “planned parenthood, practiced in Christian conscience, fulfills rather than violates the will of God.”

In the same year, the Presbyterian Church in the United States issued a statement declaring that “access to information regarding the best methods of birth control is the right of all married couples.” A year earlier, the United Presbyterian Church in the U.S.A. affirmed that “the proper use of medically approved contraceptives may contribute to the spiritual, emotional, and economic welfare of the family.”

The American Baptist Convention, also acting in commended efforts to gain “world acceptance of the simple techniques of planned parenthood” and organizations working for “birth control and family planning.”

A strong position also was taken by the United Church of Christ, which is a merger of the Congregational Christian Church and the Evangelical and Reformed Church.

This denomination held that "responsible family planning is today a clear moral duty" and that the methods by which family planning is achieved should be determined by a couple on medical advice.

In the Disciples of Christ called for "education concerning the use of efficient birth control techniques" as one measure to help curb the population explosion. The *Evangelical United Brethren Church* issued a statement declaring that "Christian couples are urged to plan for the coming of their children. We affirm our belief that planned parenthood is compatible with our concepts of the Christian family."

Perhaps the most comprehensive of all the recent religious pronouncements was issued by the Lambeth Conference of Bishops of the Anglican Communion, which includes the Protestant Episcopal Church in the United States. This authoritative body adopted a major resolution as well as a lengthy report on the position of the family in contemporary society. These important documents declared that "the responsibility for deciding upon the number and frequency of children has been laid by God upon the consciences of parents everywhere. This planning, in such ways as are mutually acceptable to husband and wife in Christian conscience, is a right and important factor in Christian family life and should be the result of a positive choice before God. . . . The responsible procreation of children is a primary obligation. . . . The choice must be made by parents together, in prayerful consideration of their resources, the society in which they live and the problems they face. . . . The means of family planning are in large measure matters of clinical and aesthetic choice. . . . Scientific studies can rightly help, and do, in

assessing the effects and usefulness of any particular means; and Christians have every right to use the gifts of science for proper ends. . . .”

This position was affirmed by the National Council of the Protestant Episcopal Church in the United States and has had an important effect on the thinking of many Protestant groups. Also influential were statements adopted earlier by Lutheran bodies. The Augustana Lutherans, in

likewise made a profound study of the moral issues involved and approved a pronouncement declaring “a married couple should so plan and govern their sexual relations that any child born to their union will be desired for itself and in relation to the time of its birth. The means which a married pair uses to determine the number and spacing of the births of their children are a matter for them to decide with their own consciences, on the basis of competent medical advice and in a sense of accountability to God. . . . So long as it causes no harm to those involved, none of the methods for controlling the number and spacing of children has any special moral merit or demerit. . . . The power to reproduce is His blessing, not a penalty upon the sexual relationship in marriage.”

The same position was adopted by the American Lutheran Church. In 1956, the United Lutheran Church stated that “husband and wife are called to exercise the power of procreation responsibly before God. This implies planning their parenthood in accordance with their ability to provide for their children and carefully nurture them in fullness of Christian faith and life. The health and welfare of the mother-wife should be a major concern in such decisions. . . . Choice as to means of conception control should be made upon professional medical advice.”



This, then, is the broad outline of the basic agreement among Protestants in support of birth control, an agreement shared by such other groups as Quakers, Unitarians, and Christian Scientists. It is helping physicians, and many millions of families, to understand that birth control is not only an important technique in medical practice, but one which is approved by the highest moral authorities as an aid to family welfare.

### *Jewish*

Support for birth control among Jewish groups has paralleled developments among the Protestants, with initial endorsements having been made as early as . As birth control again came prominently to public attention during the last few years, many Jewish groups have adopted new statements which leave no doubt as to their position.

There are three main trends in Judaism—the Reform, Conservative, and Orthodox wings. In general, it can be said that all of them, except for the most extreme Orthodox group, endorse birth control, while even the extreme group sanctions female contraceptive methods under special health circumstances.

The position of the Reform group was stated in by the Central Conference of American Rabbis, which held that “parents have the right to determine the number and to space the births of their children in accordance with what they believe to be the best interests of their families. Contraceptive information and devices should be legally and inexpensively available to married persons.”

For the Conservative group, the Rabbinical Assembly of America spoke as early as        with an authoritative statement that "Jewish tradition explicitly recognizes the desirability of the use of contraceptives when the health of the mother or the children is involved. We regard it as legitimate, and completely in consonance with the spirit of Jewish tradition, to permit the use of contraceptives on economic grounds as well, when the earning capacity of the family makes the postponement of childbearing or the limitation of the number of children socially wise and necessary. . . . Proper education in contraception and birth control will not destroy, but rather enhance, the spiritual values inherent in the family and will make for the advancement of human happiness and welfare."

For many years it was popularly supposed that Orthodox Judaism prohibited birth control under any and all conditions. This misconception was removed in        by the Rabbinical Alliance of America, representing Orthodox rabbis. The Alliance pointed out that the Orthodox position condemns birth control methods to be used by the husband. It added, however, that "in cases where the health of the female is jeopardized certain birth control measures are allowed and then only through direct consultation between the medical and rabbinic authorities."

I might add that I have learned through experience with some of my patients how this position of Orthodox Judaism is adhered to. In several cases of Orthodox wives for whom birth control was medically indicated, I was asked to report on the medical situation to the rabbis who subsequently approved the use of contraception.

### **Catholic**

There are probably more misconceptions about the Roman Catholic attitude toward family planning than about the views of any other group. These mistaken views stem from the stereotype which has been built up in the newspapers and magazines that the Catholic Church "opposes" birth control.

It is true that the Catholic Church opposes *some forms* of birth control. It is also true that the Catholic Church *endorses* at least one birth control method—and that it shares with most other religious groups the primary objective of family planning: Responsible parenthood.

The Catholic position on birth control rests on the Church's view of the purposes of marriage. Unlike the Protestant denominations, the Catholic Church holds that procreation is the primary purpose of marriage, while companionship and vocation are secondary. Birth control by chemical or mechanical means, the Church says, would frustrate this primary purpose and thus violate the natural law.

Birth control by natural means, however, is not regarded as a violation of natural law. For couples who wish to limit family size for proper reasons, therefore, the Church sanctions either complete abstinence or the rhythm method, which, as we have shown, is really timed—periodic and temporary—abstinence.

Approval of the rhythm method was given by Pope Pius XI in his famous encyclical, *Casti Connubii* (On Christian Marriage). It was repeated by Pius XII in 1951

in two important Papal addresses: "We affirm the legitimacy and, at the same time, the limits—in truth very wide—of a regulation of offspring which, unlike so-called 'birth control,' is compatible with the law of God. One may even hope that science will succeed in providing this licit [rhythm] method with a sufficiently secure basis."

In the Pope's second address in 1951 he elaborated the conditions under which Catholics are permitted to use the rhythm method. It is possible for a couple to be exempt from the duty of parenthood, he said, "for a long time and even for the duration of married life, if there are serious reasons, such as those often provided in the so-called 'indications' of the medical, eugenical, economic and social order."

As examples of these indications, Monsignor George A. Kelly, Director of the Family Life Bureau of the Archdiocese of New York, states in his authoritative book, *The Catholic Marriage Manual*, that medical reasons include cases in which a woman lacks the strength to carry a child, or in which her life would be endangered by another pregnancy, or in which the husband's health is so poor he might not live to support the child. A eugenic reason is one in which there is a great likelihood the couple would produce defective children. An economic reason would be to enable the couple to have only "as many children as they can support reasonably." A justification stemming from the social order is a situation such as poor, crowded housing.

I believe most readers will agree with me that this statement of the reasons justifying use of the rhythm method does not differ substantially from the reasons for birth control advanced by Protestant and Jewish spokesmen.

Thus we can see again how wide is the area of agreement among all the religious groups on this subject.

Monsignor Kelly also clears up a very widespread misconception that Catholics must receive permission from their priest before they can practice the rhythm method. If the couple meets the proper conditions and decides to use the rhythm method, he writes, "the couple so deciding, presuming the honesty of their motives, do not need the permission of the priest before they begin its practice."

Pope Paul VI has appointed a commission of scholarly bishops and laymen, including Catholic demographers, economists, sociologists, psychologists, physicians and other scientists, to re-examine the Church's position on marriage and the family. Among other matters, they are redefining the place of sexuality in modern life. Their deliberations are secret, and in due course they will render a report to the Pope. It is in the context of this study, which the Pope characterized as "a study as wide and deep as possible, as serious and honest as it must be in a matter of such importance," that the Church is also re-examining its position on family planning.



PART 2

*Fertility Control  
by Surgical Methods*





## CHAPTER THIRTEEN

### *The Permanent Prevention of Conception*

IN PART ONE, I discussed several methods to control family size. Although each technique functions differently, all have one feature in common: They are temporary in nature. If a husband and wife use one of these contraceptive methods and decide to have another child, they merely cease using it and have sex relations without employing any contraceptive.

The temporary methods are usually lumped together under the term "birth control." They are employed, as we have seen, by millions of couples with great effectiveness, usually allowing them to choose the size of their family. For some couples, however, even the small possibility of failure associated with the more effective methods of birth control presents too great a risk, since another pregnancy would be disastrous, medically, economically or emotionally. For these husbands and wives, absolute protection against pregnancy is indicated—as absolute as any man-made procedure can be—and there are available safe surgical operations which render either the husband or the wife incapable of further reproduction. This is called sterilization. By a relatively simple procedure performed on either spouse, the meeting of sperm and egg after intercourse is prevented and fertilization rendered impossible. There is evidence that an increasing number of couples,

particularly those in their late thirties who regard their family as complete, are being sterilized.

In the next two chapters, I shall describe what a patient should know about these operations, but first I think it important to dispel some of the confusion which prevails about modern sterilization. Because sterilization eliminates the body's reproductive capacity, even the word arouses an emotional response in many, which in turn creates rich soil for fears and suspicions.

I have discussed sterilization with men and women who are likely candidates for it on medical grounds but shrink from even considering this step because in their minds, sterilization is one and the same as castration—the removal of both testicles in the man or both ovaries in the woman, which may result in the termination of their sex lives. Until the end of the last century, the few sterilizations that were performed did involve castration and did affect sexual desire and performance, in sterilized males of all ages and in very young sterilized females.

Today, however, the most common sterilization operations for either men or women leave the sex glands intact and have no effect whatsoever on the secretion of those hormones which determine an individual's sex feelings. *Modern sterilization is thus not a desexing operation*, and sexual functioning should be as good after the operation as before. In fact, because it completely eliminates the nagging fear of becoming pregnant which grips many couples, it should permit a more spontaneous and wholesome marital relationship.

Women sometimes express the fear that the operation will bring on menopausal symptoms. If the procedure consists simply of tying off the Fallopian tubes—the most

frequent operation performed solely for the purpose of eliminating reproductive ability—this will not happen, since the woman's body physiology remains unchanged. She will continue to menstruate, her ovaries will discharge an egg each month and sex chemicals will continue to be secreted in normal amounts. If the uterus must be removed, as is sometimes necessary when it is diseased, then menstruation will stop, but if the ovaries are left behind, as they frequently are, no other changes occur in the body's behavior. If the ovaries have to be taken out because of cysts, tumors, or an old inflammation, menopausal symptoms can be prevented by the administration of an estrogenic hormone, a chemical which substitutes for the feminizing hormone which ovaries normally produce when they are present. In the latter two situations, however, it should be remembered that the removal of the uterus or ovaries has been required for specific medical reasons, and the fact that the woman becomes sterile is only an incidental by-product during the correction of a pathological condition.

### *The Legal Status of Sterilization*

There is also a great deal of confusion among doctors, lawyers, and laymen alike on the legality of sterilization in the United States. There are no Federal laws on the subject, but there are sterilization statutes in many of the states. Most of these, however, refer to *compulsory sterilization* of feeble-minded and insane inmates of state institutions, and of certain kinds of sex criminals. They were designed primarily to prevent the transmission of heredi-

tary mental defects from one generation to the next. These statutes provide little guidance, since our concern is not with a mandatory procedure, but with sterilization when it is chosen voluntarily by a couple, either to safeguard the woman's life or health where it would be jeopardized if she became pregnant, or as the preferred means of limiting family size.

There are laws in only five states which bear on *voluntary sterilization*. In Connecticut, Kansas, and Utah, operations to eliminate reproductive capacity are prohibited except in cases of "medical necessity." In Virginia in 1922 and in North Carolina in 1923, new laws were enacted which explicitly legalize sterilization on request. The House of Georgia overwhelmingly passed a similar statute, an action in which the state senate is likely to concur. It may be anticipated that other states will take similar action. This is the only such comprehensive law on the books in the United States and therefore merits detailed examination.

The North Carolina law is similar to the Virginia statute, which provides that any physician, after consultation with, and agreement by, another physician, may sterilize in a hospital licensed for surgery any man or woman over twenty-one, if a request for the operation is made in writing by the patient and his or her spouse. The request must be made at least thirty days before the performance of the operation, giving the patient a waiting period during which he can change his mind. Before the request is made, the law stipulates that the physician must give the patient a full medical explanation "as to the meaning and consequences of sterilization." A minor or one who is mentally incompetent may be sterilized only with the permission of parents or guardian, or upon a court order. Finally, the law

states unequivocally that no licensed physician "shall be liable either civilly or criminally" for performing a sterilization authorized by the statute.

In states in which there are no laws regarding sterilization, it is believed by attorneys that there can be no question of the legality of a sterilization done for medical reasons. This means an operation is legal not only to save a patient's life or health, but also when the physician, in his considered judgment, believes it necessary to protect or enhance the patient's well-being.

The ultimate decision on whether an operation is to be done thus lies in the hands of the particular doctor—and the particular hospital in which he works. There can be, and are, different opinions and standards among physicians and hospitals. The Joint Commission on Accreditation of Hospitals, which is the professional organization created to oversee hospital practices, issued an advisory bulletin on hospital sterilization procedures in 1961, after discovering that inquiries on this matter were more frequent than on any other aspect of hospital practice. The Commission surveyed hospital practices and found three typical approaches toward sterilization: hospitals, including sectarian institutions, which do not allow any surgical procedures carried out for the sole purpose of eliminating reproductive function; those which permit the operation to remedy a pathological condition; and those which recognize socioeconomic as well as health reasons. The Commission urged hospitals to be guided by their state laws, if there are any; to make consultation with specialists mandatory before permitting the operation; to pass, and post, rules and regulations governing sterilizations, and to enforce them; and to obtain written consent from the patient and spouse (or from the parent, guardian or proper

court official in the case of a minor or one mentally incompetent).

Whatever may be the differences of opinion among physicians on the necessity for sterilization in a particular case, it is clear that no doctor has been found guilty by a court for performing a contraceptive sterilization (and, as we shall see later, a significant number are performed annually in the United States). Nor has any physician received a civil judgment against him, if before the operation he had a consent form signed by patient and spouse.

Since opinions do differ, however, you may have difficulty finding a doctor who feels that sterilization is indicated in your case. The Association for Voluntary Sterilization (formerly Human Betterment), at 515 Madison Avenue, New York, N.Y., the national organization dedicated to research, education, and service in the sterilization field, maintains a national roster of cooperative physicians. These doctors have agreed to carry out the operation if the application is approved by the Association's Medical Committee and the indication for the operation does not violate the law of the particular state or the rules of the hospital in which the physician operates. (In the case of a man, the doctor may choose to do the operation in his office and no hospital rules would then apply.) The Association for Voluntary Sterilization also has a small fund to assist patients in financial need.

### *When Should Sterilization Be Considered*

Although we have been successful on occasion in re-establishing fertility in some men and women who had been sterilized, the odds are not good and it is best to consider sterilization at present as a procedure which is

not reversible. This makes the decision to undergo a sterilization operation particularly difficult—one which should be made only after consultation with a qualified physician and full discussion of the implications with your spouse. Both husband and wife must weigh the particular current difficulties which suggest the operation against the unknowns of the future—death of existing children; divorce and remarriage; and other such unlikely but possible occurrences which sometimes make a man or woman regret their earlier decision to become sterilized. Because this is a decision—and a commitment—which should be taken only by the individuals concerned, I have never, in forty years of practice, attempted to persuade a reluctant patient to undergo the operation. The operation should be freely chosen and earnestly desired by both marriage partners.

By the same token, sterilization should never be considered as a remedy for conditions with which less permanent means of birth control can cope. I would, for example, strongly advise a young couple in financial straits against it for two reasons: Modern birth control techniques normally postpone another pregnancy with sufficient reliability, plus the fact that their economic picture can change for the better. Such a couple would be much better advised to use the oral pills. I feel the same way about the sterilization of a patient who has a *temporary* medical problem, whether it is physical, mental, or emotional; if the prognosis indicates that the condition can be cured, there is no need to resort to a procedure which will bind the couple for life. Sterilization is unthinkable for a young couple, just starting out in married life, who feel they are not yet ready to assume the responsibilities of parenthood;

either they should learn to use contraception effectively under these circumstances, or they should not marry.

This adds up, then, to a view of sterilization as a final measure, useful in those situations where it is vitally important to avoid another pregnancy and where it is relatively certain that renewal of fertility will not be desired. What are some of those situations?

Sterilization should be considered, first, where another pregnancy would endanger life or severely aggravate a *permanent* physical or nervous condition. When the best medical opinion available is that there is no practical hope of remedying the underlying disability, and when it is clear that life or well-being would be jeopardized by becoming a parent, then it is necessary to secure the maximum protection against pregnancy, and sterilization is the answer. Such conditions would include advanced cardiac cases, extensive varicose veins, chronic hypertension, severe kidney disease, and previous history of malignancy. Added to these grave medical conditions are serious emotional disturbances and such neurological diseases as multiple sclerosis or severe disability from polio. This list is intended to be suggestive, rather than exhaustive, since there are many similar conditions in the woman which may call for the permanent control of fertility. Each case must be considered individually, on the basis of the facts, by a competent physician.

Sterilization is also wise and proper when the couple have already produced or are likely to produce children with an inherited nervous or physical disease. Hemophilia is one such condition; cystic fibrosis of the pancreas, another. A seriously retarded child of reproductive age, who



is not institutionalized, should also be evaluated for sterilization.

The subject should be considered, too, in those situations where physical, mental, or emotional factors prevent the couple from fulfilling their responsibilities as parents—incurable alcoholism or drug addiction in husband or wife, perhaps.

### *Sterilization When the Family Is Completed*

Finally, there is the question of sterilization for a couple which considers its present family complete and seeks permanent protection against pregnancy for the rest of the childbearing period. Most often, this is desired by mature couples in their middle or late thirties who feel that regardless of what might happen to their existing children in the event of disaster, they would not wish to begin a family anew at this stage in their lives.

I believe that this is a valid reason for sterilization; many doctors share this view. At Mount Sinai Hospital, we established rules to determine eligibility in these cases. We offered sterilization to women who were being delivered of their sixth living child, regardless of age, economic status, or health condition, if the couple requested it and both signed the proper request form. For women of thirty years of age, the required number of children dropped to five, and for those over thirty-five, the number was further reduced to four. The reason the number of required living children dropped with age was twofold. First, young parents are an asset to children, and second, older parents are

more mature and are more likely to arrive at a decision they will not regret. This plan, which I introduced when I became Chief of Obstetrics and Gynecology in , was laughingly referred to as the "law from Mount Sinai."

Some may regard six, five, or four children as too conservative, while others will deem it too radical a policy. I recognize, of course, that the final decision as to when a family is complete cannot be imposed by any set of rules but must be made, freely, by the mother and father. But a hospital must have some guidelines for its procedures and at Mount Sinai we found that our regulations worked fairly well. A follow-up study made at the end of the first four years of the service revealed that 95 percent of the patients were happy and grateful that the operation had been done.

Other non-Catholic hospitals have since adopted the "law from Mount Sinai" as their policy, while some have established their own rules varying from a requirement of three to eight children. Such rules are usually established by the Medical Board of the hospital at the suggestion of the Chief of Obstetrics and Gynecology or the Department of Obstetrics and Gynecology.

When a couple decides that their family is complete and sterilization is indicated, the next problem is to determine who should undergo the operation—the wife or husband. This is not an easy decision; certainly it should *not* be based only on the fact that the operation on the male is simpler and less costly. The whole family picture should be evaluated by the couple in consultation with a physician.

In view of the confusion surrounding this field of medical practice, it is routine for the physician to ask both

spouses to sign a statement indicating that they consent to the operation. The doctor should also put in writing his own statement of the precise indication justifying the operation. If the patient's past history or statements during the interview cast doubt on his capacity to understand the implications of consent to the operation, the doctor may ask a psychiatrist to examine the patient and evaluate his capacity.

In cases concerning incompetents or minors (who may not be considered legally competent to give effective consent), these written findings are usually more extensive. Written consent of the parent, guardian, or other person responsible for the patient should then be obtained.

### *Religious Positions on Sterilization*

In weighing the numerous factors involved in deciding whether or not to be sterilized, a husband and wife will naturally want to consider what the religious groups have to say on this subject. Though the problem has not received as much attention from the denominations as other aspects of family planning, some distinct lines of thought are beginning to emerge.

The Catholic position, it is evident, prohibits sterilization unless it is the unintended by-product of an operation to remove a diseased organ, in which case the operation is sanctioned. In *The Catholic Marriage Manual*, Monsignor George A. Kelly states the Church's position in these terms: "In certain operations, sterility results as a secondary effect. Such operations include a hysterectomy—a cutting out of the uterus—which is necessary to prevent dis-

ease. A woman without a uterus cannot give birth, and thus this operation sterilizes her permanently. But the operation's purpose is to save the woman's life—not to make her sterile. Thus it can be performed morally." All operations with the sole purpose of rendering a man or woman sterile, he makes clear, are prohibited by Church doctrine.

Protestant thinking on sterilization is more permissive and emphasizes the need for thoughtful consideration of all relevant factors before making the decision. The United Presbyterian Church in the U.S.A., for example, adopted a report in May, on *Responsible Marriage and Parenthood* which urged the physician "to deal with this problem in a most conscientious manner, pointing out to the individuals the seriousness of the procedures. . . . The couple should know their minds sufficiently before entering into a permanent act, and should also consider what would happen in the event of the loss of any or all of their existing family."

Having thus urged thoughtful caution, however, the Presbyterians went on to conclude:

"When a couple have an hereditary disorder or mental defect and there is fear of passing this to a subsequent generation, or when physical or mental health would be endangered by another pregnancy, there is no valid moral argument against voluntary sterilization. But both husband and wife should agree and their agreement must be supported by competent medical opinion."

In my view, this is not dissimilar to the approach I have outlined in this chapter.

In the Lambeth Conference of Bishops of the Anglican Communion, with which the Protestant Episcopal Church in the United States is affiliated, received a

report on *The Family in Contemporary Society*, which dealt in part with the question of sterilization. The report found the operation justified in cases of "imperative medical necessity." On voluntary sterilization, the report stated: "The choice of sterilization is a grave one, to be made only in deepest and most conscientious thought, with full agreement between the spouses. . . . In the Committee's judgement, before any such decision is reached, the most prayerful and serious consideration should be given, before God, and with the best counsel from pastor and physician which can be gained."

Similarly the United Church of Christ, in stated that the subject of sterilization "is in need of careful study. It should be approached with sympathetic understanding of those factors which make the use of mechanical contraceptives most difficult."

Summing up recent trends in Protestant thinking, the National Council of Churches, in its 1961 statement on Responsible Parenthood, declared: "Recognizing the dilemmas confronting Christian doctors and parents, particularly in some of the poorer societies where realistic alternatives seem to be lacking, we are constrained to point out the hazards in sterilization, and to stress the possibility of its use only after the most thoughtful consideration of all the factors involved. Additional study of these factors and of the moral issues entailed needs to be undertaken by Christian scholars."

Orthodox Judaism is strongly opposed to the sterilization of both men and women, except for an urgent medical reason. There appears to be no religious opposition to the sterilization of either sex by the Conservative and Reform wings of Judaism.

### *The Incidence of Voluntary Sterilization*

Despite the unsettled state of much religious, legal, and social thinking on voluntary sterilization, many couples find the operation useful in solving their particular problems of family limitation. In some countries it is extremely popular. In Puerto Rico, for example, it is known widely as *la operación* and an estimated one-fifth of Puerto Rican women of childbearing age have been sterilized. In recent years, sterilization, particularly vasectomy, has been encouraged by the Indian Government in its family planning program.

In the United States there is evidence that interest in sterilization is growing. In I published an article on sterilization in a woman's magazine and listed the Association for Voluntary Sterilization as a source of information on the subject; more than 2,500 letters poured into the Association's headquarters, creating, incidentally, a rather sizable problem for that short-staffed organization. In considerable press attention was devoted to a family planning clinic in Warrenton, Virginia, which offers sterilization routinely, along with other techniques of conception control, to the low-income families of the community; during the clinic's first year, close to one-third of the patients had chosen sterilization.

The first comprehensive figures \* on the incidence of

sterilization in the United States have now become available as a result of the Growth of American Families study of a national sample of American couples of reproductive age. Approximately 10 percent, in all, had been rendered sterile through surgery. In 4 percent of the couples, the surgically produced sterility was a by-product of an operation to cure the wife of a pathological condition, largely the removal of a diseased uterus or diseased tubes. In another 4 percent, however, the operation had been performed on the wife for permanent contraception, and in the remaining 2 percent of couples, the husband had been sterilized for the same purpose. Thus 6 percent of American husbands or wives of childbearing age had been sterilized to prevent future pregnancies. More than three out of five of these couples said the operation was to protect the wife's health. One out of five said they felt they couldn't take care of, or didn't want, more children.

As might have been expected, the frequency of contraceptive operations increases significantly with the number of years of marriage and the number of children. Only 1 percent of couples married less than five years had been sterilized, compared to 12 percent of those married fifteen years or more. Similarly, 1 percent of those with only one child had undergone the operation, against 14 percent with four children.

Interestingly, there appear to be marked geographic variations in incidence, ranging from a low of 2 percent of couples in the Northeast to 7 percent in the South and 10 percent in the West. The higher rates in the West reflect primarily a higher proportion of operations on husbands—7 percent, compared to 1 and 2 percent in other sections of the country. The increasing popularity of male opera-

tions throughout the country is evidenced by the fact that the incidence more than doubled between

An incidence of contraceptive sterilization of 6 percent among American couples means that there are probably about 100,000 such operations performed each year. This is not an insignificant number; any surgical procedure of such wide incidence is of more than passing medical and social interest. It seems evident that sterilization is regarded by a good many couples who have achieved the full-sized families they desire as a feasible solution to family limitation. Their decisions will be more thoughtful if the facts about the operation are known and the implications understood. Accordingly, let us turn our attention to the actual surgical procedures employed in rendering a woman or man sterile.



### *Sterilization of the Woman*

IN ORDER for pregnancy to occur a woman must have at least one functioning ovary, one Fallopian tube open throughout its 5-inch course, and of course, she must also have a uterus. Therefore if both ovaries are removed, or if both tubes are removed, or the canal in each interrupted so the egg cannot pass down and the sperm cannot pass up, or if the uterus is removed, a woman cannot become pregnant. All surgical sterilization procedures are based on these fundamental facts.

Since there are important reasons not to remove the ovaries or the uterus unless an abnormality is present, most sterilization procedures are carried out by operations on the Fallopian tubes. Tubal operations for sterilization are called salpingectomies, in the language of the physician. Sterilization by salpingectomy may be accomplished by the total and complete removal of both tubes or by a much simpler operation which consists simply of interrupting the passage through the tube. Today this is usually done by the so-called Pomeroy type of procedure.

This technique consists of raising a knuckle in the mid-portion of each tube and placing a tie around the base of the knuckle. That portion of the tube included in the knuckle is cut off, and the suture at the base of the knuckle is tied very tightly so that the ends of the severed portions of the tube included in the knuckle are squeezed closed.

We purposely use a catgut tie which remains in place for four or five days, and is normally digested by body juices or fluids. When the suture gives way, the two severed ends of the tube which are held together by the suture pull apart, since they are under considerable tension. The patient does not have any sensation caused by the pulling apart of these two ends of the severed tube. If one were to reoperate on such a patient, he would find that the two cut ends of the tube are sealed shut by scar tissue and lie about one-and-a-half inches apart. This offers double protection: If the seal holds, the egg cannot pass into the uterus; on the other hand, since the two ends are more than one inch apart, even if one seal might break the chance for the egg making its journey between the severed ends is greatly diminished.

The Pomeroy operation is quite rapid and an experienced gynecologic surgeon can carry out the procedure itself in thirty to sixty seconds for each side. Very, very infrequently is there failure to achieve the desired result in the Pomeroy type of sterilization. The rate of failure is four per thousand operations. For reasons not clearly understood failures are more common when the Pomeroy sterilization procedure is carried out in conjunction with cesarean section, the rate then being about one failure in fifty-five such sterilizations. If the sterilization is done immediately after a normal vaginal delivery or when a woman is not pregnant, the failure rate is in the order of one in 350 operations. There are other more elaborate sterilization procedures on the Fallopian tubes but since the Pomeroy gives such an excellent rate of success and is so simple and rapid to perform, most other tubal methods have been abandoned.

The second most common method of sterilization is removal of the uterus, called hysterectomy. This is not carried out unless the organ is diseased, that is, unless there is some type of abnormality. The abnormality most commonly met is the presence of fibroid tumors. If fibroid tumors are present and sterilization is determined upon, it is wise to remove the uterus since the removal of the fibroid-studded uterus might have to be done later anyway. On the other hand, if the woman wants to retain her fertility and there is no desire for sterilization, the surgeon ordinarily removes only the fibroid tumors and leaves the uterus intact. Sometimes a chronic history of abnormal menses, that is, menses which are very frequent or very profuse, may lead to the removal of the uterus at the time of sterilization, thus doing two jobs at once.

If the uterus is removed, tubes and ovaries are ordinarily left in. Removal of the tubes at the same time might interfere with the blood supply of the ovaries; since the ovaries are very important because of the hormonal chemicals they produce, the tubes are left in so that the ovaries will be more likely to get sufficient blood. Today when a surgeon does a hysterectomy he ordinarily also removes the mouth of the womb, the cervix. It serves no possible purpose if the uterus has been removed and is a potential source of danger since cancer may occur in the cervix just as readily if the uterus is removed as if it remains in place. The removal of the cervix and uterus together is called a total hysterectomy. Technically, it has no special danger and does not prolong the operative procedure appreciably; therefore it is highly advisable to do the complete operation whenever hysterectomy is done.

Removal of the ovaries, known as oöphorectomy, is prac-

tically never indicated to accomplish sterilization. The ovaries produce such important chemicals that their removal is rarely carried out unless it is absolutely essential. If they are removed the woman may develop rather severe and acute menopausal symptoms. Of course, with the substitution therapy available today, one can often either eliminate or greatly relieve these symptoms by giving appropriate hormones by mouth.

Sterilization of the woman can be carried out at three different periods. First and most common is puerperal sterilization. This means that sterilization is done almost immediately after childbirth. In my own clinic at Mount Sinai, we found that any time from one to twelve hours after delivery of the child was the best time to carry out a puerperal sterilization. The postdelivery operation is often favored because it is technically simpler at this time; the uterus is enlarged after childbirth and a small incision just beneath the navel is sufficient to expose the tubes. Furthermore, if it is done very promptly after childbirth, it adds little length to the normal hospital stay.

A second period at which sterilization can be carried out is at the time of cesarean section. That means that as soon as the uterus has been cut into, the baby removed, and the incision of the uterus properly repaired, the surgeon immediately does the sterilization procedure on both of the tubes. Occasionally a cesarean section is combined with hysterectomy, which means that after the child is delivered, the surgeon carries out a typical hysterectomy. This is not done usually unless there is some abnormality of the uterus. If the woman is in her late thirties and sterilization is decided upon at the time of the cesarean section, some physicians may feel for perhaps logical reasons that

the uterus should also be removed, since there is very little purpose in leaving it in a sterile woman and it may be a potential source of danger from irregular bleeding, excessive menses, cancer, and so forth. My own feeling, however, is that the uterus, even after sterilization, serves a very definite purpose, particularly in the younger woman. When the uterus is removed, menstruation stops forever. Psychologically, I believe most women want to menstruate since either consciously or subconsciously, absence of menstruation is associated with the end of one's reproductive life, with relatively old age, as it were; menstruation is the badge of youth. Some women incorrectly feel that their sex lives are over when they cease to menstruate. This is a very false impression but so deeply ingrained in female thinking that we have to take account of it. My feeling, therefore, is that the uterus should remain as the badge of youth unless there is some distinct reason to remove it.

Sterilization can also be carried out at any time that the individual is not pregnant and has not been pregnant for several months; this is known as interval sterilization. One does not usually carry out sterilization until at least three months after childbirth because there is a tendency earlier for excessive bleeding at the time of pelvic surgery. Interval sterilization can be done either abdominally or by making an incision in the vagina; through the vaginal incision, the uterus can be brought down and into the operative wound, the tube on either side can be seen and tied off by the Pomeroy technique previously described. A vaginal hysterectomy can also be done as an interval sterilization technique. In some cases, this may be preferable to a vaginal tubal operation. Such decisions, however, can

only be made by the gynecologist, after evaluating the specific facts of the case.

A puerperal sterilization by salpingectomy is sometimes done under the same anesthetic as is used for the delivery itself. This is only possible if a spinal type of anesthetic is used and if the abdominal incision can be made before the spinal has time to wear off. Ordinarily since the operation is done within one to twelve hours after delivery when the anesthetic will have worn off, a new one must be given. The one which I prefer, usually the nicest as far as the patient is concerned, is sodium pentothal, an intravenous anesthetic. The anesthetic agent is injected into the arm vein much as if one were having a sample of blood drawn. The induction phase is very gentle and very rapid. Since deep anesthesia is not necessary for a tubal sterilization, it gives a sufficient degree of muscular relaxation to carry out the procedure easily. A small midline incision is made in the abdomen, starting just beneath the navel and continuing downward for three inches. Through this small skin incision the abdominal cavity is entered. By simply rotating the large uterus to one side and then the other, one Fallopian tube after the other is brought into the open wound and a Pomeroy tubal operation done. Then the abdominal incision is repaired. The whole procedure does not take more than fifteen or twenty minutes.

If an interval sterilization is done a larger abdominal incision is required because the uterus by this time is a small pelvic organ and the operator has to insert his hand into the pelvis to bring the uterus up into the aperture in the abdominal wall created by the incision.

Tubal ligation at the time of cesarean section, like the

cesarean itself, is of course done through a large abdominal incision.

Modern surgery has progressed so remarkably that the risk and discomfort associated with sterilization procedures is likely to be extremely minimal. In all such simple operative procedures, whether puerperal or interval sterilization or at cesarean section, the patient is usually allowed out of bed either on the day of operation or the day thereafter. The period of light postoperative diet is a matter of decision by the individual physician: Some doctors feed patients within twelve hours of operation, allowing them to eat whatever they desire. Others prefer to keep patients on a very light diet for twenty-four to thirty-six hours. The skin stitches or metal clips, whichever are used, are removed six or seven days after the operation. By this time the patient has fully regained her strength and feels as though nothing much has been done. She is ordinarily allowed to go home on the day the stitches are removed or the day thereafter.

The aftereffects of either puerperal tubal ligation or interval tubal ligation should be relatively nil. There is certainly no effect at all on menstrual periods or menstrual flow. The uterus is not touched during the operative procedure and since menstruation is from the lining of the uterus and has nothing to do with the integrity of the Fallopian tubes, it is not at all affected. There is also no reason to anticipate any change in the individual's sexual response or sexual desire. Of course there may be an improvement in sexual activities because fear of unwanted pregnancy is entirely removed. This improvement is not attributable to any change in the chemicals of the body but simply to

a difference in attitude and the elimination of underlying fears.

In less than half of the cases, attempts to reconnect Fallopian tubes which have been severed by the Pomeroy technique are successful. These odds are sufficiently small so that no physician would advise a patient to have any type of surgical sterilization unless she and her husband are as certain as humans can be that no further pregnancies will be desired. The attempt to reconnect the tubes so that once again there is an open path between the ovary and uterus is almost never necessary. Unfortunately, tubal sterilization appears to be very lightly regarded in Puerto Rico. During my service at Mount Sinai, out of nearly one thousand such operations, we had four young women who desired to be rendered fertile again after tubal sterilization. One case was really shocking: It involved a twenty-one-year-old woman who had been married at the age of seventeen; as a requisite to marriage, the husband insisted that she be sterilized first. This apparently was accomplished, though it's hard to believe that any doctor would be willing to carry out such a procedure on so young a childless woman. The original marriage ended in divorce, the patient then came to the United States and remarried and was desperately anxious for a child. We were able to restore her fertility, as well as that of one other of the four patients. In the two remaining cases, we were not able to reconstitute the tubes properly and the operation failed. In this small series of four cases, reversibility was 50 percent. Of course, if the uterus or both ovaries have been removed, there is absolutely no way to restore fertility. It is irrevocably lost.

Many doctors do not charge extra when they do a puer-



peral sterilization; on the other hand, it is not infrequent that up to \$100 is added to the agreed-upon obstetrical fee. There is usually no additional fee for carrying out sterilization at the time of cesarean section. Like other medical fees, the fee for an interval sterilization is highly variable. It should be in the range of the fee normally charged for removal of the appendix or any other relatively simple intra-abdominal procedure—somewhere between \$200 and \$350, depending on whether the patient has semiprivate or private hospital accommodations. Physicians often feel that if a person does not have to economize on her room, she can easily support the larger fee. If the accommodations are semiprivate, the physician usually takes this fact into account and helps her economize by charging the lesser fee. Since most hospital stays after childbirth are about five days, there is very little additional hospital cost with a puerperal sterilization, perhaps only the cost of two days' additional hospitalization. If the sterilization is not coincident with actual delivery, there will likely be an additional charge for the use of the operating room and the second anesthetic.

### *Sterilization of the Man*

A MAN can be sterilized by castration, the removal of both testicles. This is never done on normal individuals because it produces impotence and many other wholly undesirable effects not only involving sexual desire and potency, but also loss of beard, change of voice, tendency to deposit fat at various parts of the body, and so forth. The removal of the testicles is carried out only if there is some serious disease such as a cancer or tuberculosis of the testicles; today even this latter disease could probably be treated satisfactorily with some specific drugs. Very infrequently, in some states, the Court may order castration of a repeated sex offender before allowing him to go at large.

In contrast to this desexing procedure, sterilization of the male for purposes of contraception is carried out today by doing a very simple operation known as vasectomy. Since there are two testicles this operation must be done on both sides. Vasectomy consists of uncoupling the large tube which leads up from the testicle, where sperm are manufactured, to their point of exit, the penis. This uncoupling is accomplished by cutting out an inch or inch-and-a-half from the middle of this passageway known as the *vas deferens*, the tube which carries sperm from the testicles to the urethra, from which they are ejected during intercourse.

It is the simplest imaginable type of surgery since no

body cavity has to be entered; hence it does not carry any appreciable risk. One would venture to guess that having a tooth pulled probably is as risky as having a vasectomy. The procedure takes place either in the hospital or the doctor's office. It is ordinarily done either by a genitourinary surgeon, a so-called GU man who specializes in male reproductive problems, or a general surgeon. Usually a local anesthetic, such as one of the cocaine derivatives, is injected into the operative site to numb sensation. Some physicians and some patients prefer a general anesthetic. This usually is sodium pentothal, which is injected into a vein, or gas oxygen, an inhalation anesthetic.

A small incision of about a half to an inch long is made in the upper and lateral region of the scrotum, directly over the large tube called the spermatic cord. The cord carries within it not only the much smaller tube, the *vas deferens*, but also blood vessels and nerves. The incision is extended downward from the skin a quarter inch or so until the cord is reached; then the cord itself is incised and the *vas deferens* isolated from the other structures, carried in the cord, much like isolating the largest wire in a coaxial cable. Two ligatures, frequently of silk, are put an inch and a half apart around the *vas deferens* and a portion of the *vas* between them is cut out.

This is the complete operation. The incision, of course, has to be closed with one or two sutures and a temporary dressing is applied. Very often a man is advised to wear a suspensory to hold the testicles up so they don't hang downward, making traction on the wound which might be painful. The operation takes fifteen or twenty minutes, most of which is occupied in injecting the local anesthetic.

If the operation is performed in the hospital, the patient is discharged either twenty-four or forty-eight hours later. If done in the doctor's office, the man is usually kept under observation for an hour; he is then allowed to go home and advised to refrain from strenuous activity for forty-eight to seventy-two hours. The skin sutures or clips are usually removed five or six days after the operation.

In ninety-nine cases out of a hundred, the operation is completely successful: By cutting the *vas deferens*, the flow of sperm to the urethra is stopped after two to three weeks, and without sperm, of course, a man cannot impregnate a woman. In approximately 1 percent of cases, the operation fails and sperm return to the urethra within several weeks. This failure is attributable to the fact that the two severed ends of the *vas deferens* find each other and grow together again, forming a new canal to transport sperm. Since there is in any case an interval of several weeks before sperm disappears from the semen, the man is cautioned to be sure that contraception is adequately carried out during intercourse for the first two or three weeks after vasectomy. Then it is usually advisable to take a semen specimen to the physician to allow him to examine it under the microscope. If he notes a complete absence of sperm, he will probably advise intercourse without any contraceptive. Since the rare recanalization of the *vas* which is the cause of failure always occurs within the first six months after the operation, it is advisable during this period to have a semen specimen examined approximately every six weeks. After six months such precautions are no longer necessary.

This simple procedure does not change in the slightest a man's coital performance. His testicles continue to se-

crete normal sex hormones, and he has normal sexual desire and potency. Since sperm cells make up a negligible proportion of the semen, there is no diminution in the actual amount of semen produced at ejaculation. Apart from the absence of sperm in the semen, there are no other physiological effects. In fact, sperm continue to be produced after the operation, but with their exit route blocked they simply disintegrate and are reabsorbed by the body. There is thus no way to determine that a man has been sterilized except to search the ejaculate under a microscope; if sterilization has been well performed, sperm are completely absent.

There also should be no effect on the man's virility—except perhaps a subconscious one. Some men are so fearful of impregnating their wives that this fear diminishes sexual enjoyment and enthusiasm. The fact that after vasectomy they can have intercourse without the chance of impregnation may greatly revivify the sexual activity of such worriers. This is not because of any hormonal action but is simply a matter of emotions and attitudes.

Emotions, of course, can be tricky and there is the occasional man who claims that his sexual activity is adversely affected by sterilization. There is no chemical or physical basis for this. Since, however, the subconscious plays such an important part in the sex life of all of us, it is conceivable that the operation could have an adverse effect—for example, if the man has intense feelings of guilt, again perhaps subconscious, about having had it performed. Therefore I don't believe any doctor should attempt to persuade a man to be sterilized by vasectomy or any other means. Since sex activity has not nearly as much to do

with the structures below the waist as those above the neck, the patient's attitudes, conscious and subconscious, must be taken into consideration.

Although the results of male sterilizations appear to be highly satisfactory, the medical literature is curiously devoid of any careful follow-up studies on the reactions of men to vasectomy. Fortunately this void will soon be filled because, under the auspices of the Association for Voluntary Sterilization, a very careful investigation is being carried out in which a psychiatrist is conducting lengthy depth interviews with one hundred men who have had sterilizations arranged through this organization.

Is vasectomy reversible? Attempts to restore fertility in vasectomized men have been successful about half the time. The reversal procedure is accomplished by exposing the operative site, finding the two cut ends of the *vas deferens* and sewing them together again. A physician on the West Coast reported four successful reversals in eight men who had been vasectomized under the barbaric Hitler regime.

The operation to restore fertility, however, requires extremely skillful surgical technique and the odds on success are too small to depend on. Therefore one should view vasectomy as permanent, not temporary, and should not decide to have it performed unless he is absolutely certain he will not want to have more children, no matter what may happen.

Experimental laboratories are working on methods for temporary vasectomy, operations which could be reversed in virtually 100 percent of the cases. This is theoretically possible and if such a technique becomes perfected, it would greatly increase the demand for vasectomy.

The fee for vasectomy is highly variable. If the procedure is done in the doctor's office, the whole expense is probably \$100 to \$200, including follow-up care and semen analyses. On the other hand, if it is done in the hospital, there is a surgical fee of \$100 to \$200, plus costs of the operating room, anesthesia, and the two-day hospital stay. This would probably bring the total within the \$200 to \$350 range.

*Abortion*

BIRTH CONTROL and sterilization accomplish the control of family size by preventing union of sperm and egg, in this way not allowing conception to take place. Once a pregnancy has already begun, family limitation is still possible by employing a wholly different procedure—induced abortion.

For the humane physician, faced with a desperate woman intent on securing abortion, there are few subjects in medical practice about which it is more difficult to give sound and practical guidance. To the woman seeking such help the matter seems all very simple. For one or another very personal reason, she feels it is impossible to allow the pregnancy to continue. She considers it her prerogative to decide whether she should have a baby or an abortion. However, when she attempts to secure an abortion she comes up against a maze of religious, legal, medical, and administrative rules which make the procurement of legal abortion virtually impossible. If she relentlessly pursues her purpose, it is more than likely she must resort to illegal or criminal abortion. This is an ugly choice but approximately one million American women make it every year. I am frank to say that this number is at best an educated guess, based on projections of the fragmentary statistics that are available. Some authorities would put the number well below a million and some well above it. In either instance, however, it is only



an estimate; all we really know is that a vast number of illegal abortions are performed each year in this country. Against this large army of patrons of the criminal abortionists, one finds an extremely small group of women who secure legal abortions, perhaps 8,500 in the course of twelve months.

What are the actual conditions confronting a woman who contemplates abortion in the United States? Perhaps it will clarify the topic if for the moment we ignore the legal and religious complexities and first treat abortion as wholly a medical problem. From a medical viewpoint, what is an abortion? How is it accomplished? How safe are these procedures?

The term abortion applies to any interruption of pregnancy before the fetus has grown sufficiently to live outside its mother's body, no matter what causes the interruption or when it occurs. A fetus of seven months or more has a chance for survival so that interruption of pregnancy during the last third of the normal nine-month gestation period is considered a premature birth rather than abortion. In the first six months, however, survival of the fetus is unlikely and its expulsion is considered abortion even though such an expulsion may be wholly involuntary.

Laymen usually refer to involuntary or spontaneous abortions as miscarriages. Our present concern, however, is not with these abortions which occur naturally and spontaneously, but with those which are deliberately brought about as the means of ending an unwanted pregnancy. It makes no difference whether the reason for ending the pregnancy is medical, eugenic, or socioeconomic.

### *Abortion Procedures*

If duration of the pregnancy is less than three months the type of operation selected is called a D. and C., which stands for dilatation and curettage. No incision is required since the fetus is evacuated through the vagina. A series of graduated, cigar-shaped metal dilators is passed through the vagina into the mouth of the womb. The surgeon starts with a dilator about the diameter of a thin soda straw. He pushes it through the small opening in the cervix with a kind of boring, rotary motion. He then removes the smallest dilator, substituting one a trifle larger, each time replacing the smaller by one of slightly greater circumference. The largest dilator used is approximately the size of an ordinary cigar. This stretches the cervix sufficiently to permit the insertion of either a curette or an ovum forceps. A curette is a tiny, rakelike, metal instrument which is inserted into the cavity of the womb to scrape loose the embryo and its placenta. An ovum forceps is a long surgical clamp which has an elliptical end; when the two jaws of the clamp are brought together they seize those portions of the afterbirth and fetus which have been loosened and withdraw them from the uterus.

A D. and C. is a simple surgical procedure, but since, however, it is somewhat painful, it is done under anesthesia when performed in a hospital with full legal and medical sanction.

The anesthetic used is either an inhalation anesthetic, like nitrous oxide gas, or an anesthetic injected in an arm vein, sodium pentothal. In rare instances the procedure

may be done under a local anesthetic either injected into the wall of the cervix to numb the operative site or into the spinal canal to numb the whole body from the waist down. When such a D. and C. goes well, and it usually does, there is little blood loss and the whole procedure is completed in about fifteen minutes. Recuperation is rapid. The patient ordinarily is allowed up a few hours following the operation and discharged from the hospital a day or two later.

On the other hand, illegal abortions done by physicians are usually not done under anesthesia. However, the patient is usually given sedation, perhaps morphine and scopolamine, so that when the procedure is done she is far from alert. Illegal abortions are not hospital procedures; ordinarily they are done either in the doctor's office or in some pseudo nursing home which he employs.

If a pregnancy is to be aborted in a hospital after the end of the twelfth week, the fetus is too large to be evacuated through the partially stretched or dilated entrance of the womb and an abdominal operation is required. Most frequently a small longitudinal incision is made in the midline of the lower abdomen. The uterus is then opened and the fetus removed in much the same manner as a baby is removed at cesarean birth. This abdominal type of abortion is called a hysterotomy or miniature cesarean section. After the fetus and placenta are removed, the incisions in both the uterus and the abdominal wall must be sewn tightly together. Hysterotomy takes a half to three-quarters of an hour and is always done under either general or local anesthesia. The period of recuperation in the hospital, like that following any other abdominal operation, is usually a week. The patient

then must take things easy, not assuming ordinary activities until the procedure is three or four weeks behind her.

A few illegal abortionists are sufficiently intrepid to attempt the emptying of a uterus even well beyond the twelfth week. The procedure normally employed is to dilate the cervix and then to pack it and the lower portion of the uterus with yards and yards of gauze or bandage about two inches in diameter. The packing is left in for eighteen hours or perhaps even longer. The presence of the packing causes laborlike cramps or pains, with the result that the cervix is dilated quite widely; this enables the operator to insert large ovum forceps and curettes and thus empty the uterus. An abortion from below on a pregnancy of more than three months' duration is not a safe procedure even when done legally in the hospital and is infinitely more dangerous when done under the relatively poor conditions under which the usual illegal abortionist must work.

Recently a new technique has been introduced for aborting pregnancies between the fourteenth and twenty-second weeks. The method was begun in South America and perfected in Sweden. A small area of skin is anesthetized with cocaine a few inches below the navel and an inch or two to one side or the other of the midline. A needle somewhat longer and larger than the needle ordinarily used to secure a blood specimen from a vein is thrust through the abdominal wall into the cavity of the uterus. About six ounces of amniotic fluid, the fluid which surrounds the fetus, is withdrawn and an equal quantity of a 20 percent salt or 50 percent glucose solution substituted. Within twenty to twenty-five hours labor commences

and three or four hours thereafter the patient expels the placenta and the fetus. This is a highly successful technique and is very likely to replace hysterotomy or miniature cesarean section.

### *How Safe Are the Operations?*

Induced abortion, that is, abortion brought about through surgical means, is incorrectly thought of as a hazardous procedure. There is very little danger in the legal variety, performed under the best possible modern auspices of hospital, anesthesia, antibiotics, and transfusion, if necessary. When abortion is done on pregnancies of less than twelve weeks by D. and C., the actual danger is almost infinitesimal. Since there are relatively few legal abortions done in this country, we have to quote statistics from the Iron Curtain countries where abortion is done on demand and 100,000 or more are performed in hospitals each year. The risk of death reported in recent years by these countries varies from two per 100,000 operations in Czechoslovakia to five in Hungary. Contrasting the risk of death from childbirth in these two countries with the danger from legal abortion, one finds that an early legal abortion is twelve to thirty times safer than having a baby. The relative safety of a D. and C. under proper medical auspices will perhaps be even clearer by comparison to the risk of mortality associated with tonsillectomies in this country, which is currently about seventeen deaths for each 100,000 operations; in other words, a D. and C. is from three to eight times safer than a tonsillectomy.

The danger from hysterotomy, that is, abdominal termi-

nation of pregnancies of greater duration than twelve weeks, would probably be somewhat higher, about equaling the danger implicit in such simple abdominal operations as removal of the appendix. Again, not enough hysterotomies are done in this country to yield a large enough statistical sample and we have to look elsewhere for a figure on the mortality rate: Scandinavian physicians have reported about one death per 1,000 such operations in recent years. We do not know what danger or risk is involved in the salt or sugar injection technique, since this is still too new and too infrequently done to allow any estimate of relative danger.

The significant difference in safety before and after the twelfth week of pregnancy, even under proper medical conditions, leads to the correct conclusion that if an abortion is to be done, it is safer earlier than later. Too early is slightly more difficult since the mouth of the womb may be still firm, making dilatation and curettage slightly more difficult. The ideal time is during the seventh week, that is, seven weeks after the onset of the last menstrual period, probably about five weeks after actual conception occurred.

There is no evidence that a properly performed abortion has any adverse effect on a patient's subsequent fertility or physical health.

A physician's fee for performing a legal abortion varies, as do fees for other surgical procedures. The fee for abortion by dilatation and curettage normally ranges from \$75 to \$150; sometimes a physician may charge less and sometimes considerably more. The fee for hysterotomy probably varies from \$200 to \$300; fees in excess of this have been known to me, although I don't think they are justi-

fied. As for fees for illegal abortion, it is obviously impossible to have accurate information. A rule-of-thumb is that ordinarily the higher the fee, the safer the procedure, although there are flagrant exceptions to such a rule. A doctor in an eastern seaboard community charges a flat \$1000 while the fee of another doctor is said to vary with the ability of the patient to pay, sometimes up to several thousand dollars. On the other hand, there are some physician-abortionists with considerable experience who charge relatively low fees. There was a well known abortionist practicing just over the Pennsylvania line from New York who is reputed to have charged \$50 per case for years and years. In Baltimore, an excellent abortionist, who did an immense amount of work before he was apprehended by the police, charged fees varying from \$150 to \$250. In Puerto Rico, where policing of the abortion traffic apparently is not nearly as vigilant as in the United States, illegal abortions are said to cost Americans approximately \$250. These are done in small private hospitals which have facilities for all types of medical and surgical procedures. I understand from American lay informants that sodium pentothal anesthesia is administered in these hospitals.

These are the primary *medical* facts about abortion but for the woman who seeks to understand the real situation she faces in contemplating an abortion, the recital of true facts has just begun. In no other area of medical practice do legal, religious, political, social, and other nonmedical considerations play a comparable determining role as to who may receive medical care and who may not.

### *The Legal Status*

The legal question is the central one. It should be possible to say with clarity that abortions are legal under such and such circumstances and illegal under others; indeed the patient has every right under our legal system to such a clear definition of her position. Given the ambiguity surrounding the administration of our abortion laws, such a categorical statement about the legality of a certain indication for abortion is virtually impossible.

Each state has its own law regarding legal and illegal abortion. For the most part, these statutes were put on the books ninety or a hundred years ago, having as progenitor the English abortion law of 1803. This parent statute drew a distinction in degree between whether abortion was carried out before the fetus quickened (moved) or after, making it a lesser crime to perform an abortion before than after quickening. No legal abortion was defined by this statute, because at that time abortion could not have been done for health reasons since the operation itself was so terribly dangerous that it presented a graver survival risk to the pregnant woman than continuation of her pregnancy. In 1827, there was written into the law of England legal grounds for carrying out abortion and so by the time our various state statutes were put on the books, it had become legally and medically feasible to carry out interruption of pregnancy, since in some cases the operation submitted the woman to less risk than continuation of the pregnancy.



The common denominator of our state statutes is to prohibit all abortions except those dictated by urgent medical necessity. In forty-two states the operation can be performed legally only to save the *life* of the mother. In other states, the language of the statute is slightly more permissive. For example, the laws of Alabama, Oregon, and Washington, D.C., permit abortion to preserve the mother's *health* as well as her life; Colorado and New Mexico legalize the operation to prevent serious or permanent bodily *injury*. In Maryland, a physician is permitted to interrupt pregnancy when he is satisfied that "the fetus is dead or that no other method will secure the *safety* of the mother." In three states—Massachusetts, Pennsylvania, and New Jersey—the statutes do not directly sanction the operation but approach the matter obliquely by prohibiting abortions carried out *unlawfully*, obviously implying that some must be lawful.

The crux of the matter, then, is how physicians construe medical necessity for a legal abortion. As in the case of sterilization, there is no unanimity in the medical profession as to when abortion is essential to preserve a pregnant woman's life and even more ambiguity as to when it is necessary to preserve her health or promote her safety. The diversity of opinion, however, falls in a very narrow range from an extremely rigid interpretation of the statutory requirements to only a slightly less rigid interpretation. The main effect of the laws and the administrative practices imposed by the medical profession itself is that a legal operation performed in a hospital is *extremely difficult to obtain anywhere in the United States*. For the guidance of patients this is perhaps the central fact about

legal, or therapeutic abortion, as it is termed in medical parlance, since the procedure is a form of treatment or therapy.

Not only do the abortion laws vary from state to state, but the interpretation placed upon them by different hospitals within a state also vary markedly, so that a case for abortion judged legal in one hospital may be rejected by another hospital, even in the same city. In Los Angeles, a private institution reported the incidence of one legal abortion for every 52 births, while in the large Los Angeles County Hospital, a city hospital, there was one performed for every 8,000 births. Several physicians served on the staff of both institutions and yet the huge discrepancy occurred. Similar discrepancies in incidence are reported within other cities and states. The laws are either so vague or so difficult to administer that uniform application is virtually impossible.

There are no nationwide figures for the number of legal abortions done each year in this country. There are annual figures for New York City and a few other large urban centers. On this basis one may estimate that the incidence of legal abortion is approximately two per thousand children born. Since there are 4,250,000 births per year in this country, we would therefore calculate that approximately 8,500 legal abortions are performed annually in the United States. Expressed in another way the number of abortions done openly and legally in hospitals is probably less than 1 percent of the total abortions believed to be performed in this country, the remaining 99 per cent being done illegally.

What distinguishes these 8,500 women who are operated on legally in hospitals from perhaps the 992,000 who have

their needs met by illegal abortionists? There is no simple answer.

### *Therapeutic Abortion*

Quite candidly, one factor is chance or happenstance. One woman is fortunate enough to be treated by a physician who regards her circumstances as coming within the purview of medical necessity required by the law of his state. She receives a legal operation under conditions of minimum risk. Another woman, in perhaps identical circumstances, is seen by a physician whose view of medical necessity is more rigid—or the hospital in which he works has stricter regulations governing therapeutic abortion—and her abortion is turned down. But since she feels her reasons for seeking the early termination of her pregnancy are urgent, she may have the operation done anyway under conditions which are less safe. Not only are the conditions less safe physically but emotionally as well. Illegal abortion is a dirty business and the woman who has to resort to it cannot help but feel defiled and dirtied by the clandestine procedure.

Happenstance or chance often receives an assist from socioeconomic status. Although therapeutic abortion is never easy to obtain, published reports make it apparent that it is considerably more difficult to secure in the charity wards of a public hospital than in the private service of a nonpublic hospital. This difference reflects a class distinction which is improper in a democracy and abhorrent in the halls of medicine.

Apart from these nonmedical factors, a patient secures

a therapeutic abortion only when her physician, and his medical colleagues at the hospital to whom he must present the case, are convinced—or sometimes persuaded—that pregnancy or birth might seriously threaten the life or health of the patient involved. It is a bitter irony that as the march of medicine has made it possible to save more lives, it has taken therapeutic abortion away from many women, abandoning them to the illegal abortionist.

A generation ago heart disease, tuberculosis, and kidney trouble accounted for the great majority of therapeutic or legal abortions. At that time medicine possessed insufficient knowledge to assure patients with these ailments of decent odds on surviving pregnancy, and therapeutic abortion in these cases was in accord with the law, as an operation necessary to save the mother's life. However, in the last quarter century, medicine has made such remarkable strides that it is now possible to conduct such patients safely through pregnancy, without further injury to their health. Therefore, from a position of preeminence among indications for therapeutic abortion, these three diseases have dropped to places of relatively little statistical importance.

At the same time there has been a change in philosophic attitude toward the preservation of life. Instead of regarding life as mere physical or organic survival, many now interpret it in its broader contours. Survival is viewed in terms of the total human being, so that health and emotional integrity are considered keystones in the arch of life as important as a pulsating heart or a breathing lung.

The consequences of these two developments—increased ability to survive pregnancy complicated by serious organic disease and broadening of the concept, “preservation

of life"—have been substantial. In the first place, the number of therapeutic abortions performed throughout the country has been materially reduced. In New York City the rate dropped from 5.1 abortions per thousand live births in 1943 to 2.0 in the last several years. Secondly, there has been a drastic change in individual indications for legal abortion. From an unimportant position in the list of indications, psychiatric illness has steadily risen until now it is number one. Second position is held by eugenic conditions, termination of pregnancy when there is great likelihood that the fetus conceived will be a seriously abnormal baby. Another relatively common indication is previous malignancy or malignancy concurrent with pregnancy. This usually means cancer of the breast, thyroid gland, or cervix, because these are the cancers which are likely to be stimulated to growth by the normal chemicals produced by the afterbirth.

This change in the list of conditions justifying legal termination of pregnancy is reflected in the experience of many hospitals throughout the country. At the Mount Sinai Hospital in New York City 43 percent of the therapeutic abortions performed between 1953 and 1960 were on psychiatric grounds, 20 percent on eugenic grounds, and 9 percent because of a previous cancer. By contrast, heart disease, the leading indication of twenty or thirty years ago, was the determining factor in only 6 percent of the cases.

A major explanation of the discriminatory handling of abortion cases in public and private hospitals seems to lie in the unwillingness of public institutions to update their medical thinking. In public hospitals abortion is usually permitted only when there is serious organic dis-

ease such as very advanced heart disease, tuberculosis, or kidney disease. It is rare for them to grant abortion on psychiatric grounds and in almost no public hospital is the likelihood of a fetal malformation considered justification for carrying out abortion.

### *Psychiatric and Eugenic Indications*

Because most abortion statutes permit the operation only "to preserve the woman's life," many private hospitals will permit therapeutic abortion for psychiatric reasons only when there is evidence presented by consulting psychiatrists that the patient is likely to commit suicide unless pregnancy is terminated. Accurate judgment as to whether or not a patient will carry out her threat to commit suicide is extremely difficult. However, when psychiatric consultants judge the threat to be credible, it at least fulfills the legal requirements. To further safeguard psychiatric indications, some institutions require that the patient must have had a previous emotional or mental difficulty sufficiently grave to have been treated by psychotherapy. Such a rule diminishes the likelihood of malingering. If a patient has had previous psychiatric difficulty she is likely to be less stable, which makes her threat to kill herself more credible.

From a strictly legal viewpoint, abortions on eugenic grounds are probably illegal since they do not save the mother's life but perhaps help preserve only her sanity by relieving her of the remaining months of agonizing anxiety that her baby may be abnormal. The principal eugenic reason for abortion, one that is probably accepted in two-fifths

of the nation's nonsectarian hospitals, is infection with German measles (*rubella*) sometime during the first twelve weeks of pregnancy. The virus causing German measles has a devastating effect on early embryonic tissue and if the embryo is infected, very severe congenital abnormalities are likely to result. Among these are microcephaly, the condition in which the head of the baby is about the size of one's closed fist, which is associated with a marked degree of idiocy; congenital heart disease; bilateral eye cataracts which lead to almost complete blindness; and deafness. If the pregnant woman actually contracts *rubella*, a condition difficult to diagnose accurately, the likelihood of the baby being malformed is closely related to the time of infection. If the infection occurs during the first four to six weeks of pregnancy, the chance of fetal involvement is 50 percent; if the infection occurs between the sixth and twelfth weeks, the chance is more in the order of perhaps 15 to 20 percent. Beyond the twelfth week, fetal damage is rare except for the occurrence of congenital deafness. Many physicians, certainly not all, share my views that the fetal risk figures in *rubella* occurring in early pregnancy are too high to take the chance if the couple is young and apparently normally fertile. Accordingly, in cases in which the diagnosis of *rubella* in early pregnancy is substantiated through careful observation by a physician knowledgeable in infectious diseases, abortion is usually recommended.

Another eugenic indication for abortion is created by X-ray therapy applied to the uterus without knowledge that the woman is pregnant. Here again there is danger that the child will be born seriously abnormal, the abnormality involving the brain and central nervous system. It

is necessary to stress that we are discussing the rare instance when the X-ray is given to the uterus for treatment, not diagnosis; there is no case recorded in the annals of medicine in which X-ray used for diagnosis has caused any fetal abnormality. It is only the much more intense form of X-ray associated with the treatment of fibroid tumors of the uterus which is under indictment.

### *The Finkbine Episode*

Logical extension of the reasoning on German measles and therapeutic X-ray should have prevented the international *cause célèbre* which erupted during the summer of 1962 in the case of Mrs. Robert Finkbine of Phoenix, Arizona. Mrs. Finkbine, unfortunately, was one of many women who took the sleeping pill, thalidomide, in early pregnancy. She sought an abortion after it had been reported that thousands of West German mothers who had taken the pill early in pregnancy gave birth to horribly deformed infants. Many of the babies had phocomelia, a condition in which the infants lack true arms or legs. The type of malformation is the source of the term "phocomelia" which is the Greek word for "seal," since the tragic children appear to have flippers instead of arms and legs. The evidence indicated that about half the mothers who took the pills in the first three months of pregnancy had deformed babies. Since this risk is even greater than that associated with German measles, it is not surprising that the physicians at the Good Samaritan Hospital in Phoenix approved Mrs. Finkbine's request for abortion. However, before the procedure could be carried out, the news leaked



to the press. At this point the hospital decided not to permit the abortion unless an Arizona court declared it legal under the existing state statute. The court refused to rule on the issue and newspapers around the world had a field day reporting the agonies of the trapped couple as they considered possible alternatives. They publicly discussed the possibility of an illegal operation or of going to Japan, where abortion is legal. Finally, the Finkbines flew to Sweden where, under a much more liberal abortion law, the Royal Swedish Medical Board quickly validated the operation. Since by this time pregnancy was quite far advanced, therapeutic abortion was done abdominally—and successfully—at the Royal Caroline Hospital in Stockholm, one of the world's most distinguished medical institutions. The doctor who performed the abortion told me that the fetus was grossly abnormal. It is heartening to note that the Finkbines had a normal baby 2½ years later.

I believe the Finkbine abortion would have been performed in the Good Samaritan Hospital in Phoenix, or in a great number of other American hospitals, if it had not become the subject of such widespread notoriety. As a result of the Finkbine case, many have learned that in such situations it is wise to keep the whole matter quite secret to prevent it from being decided in the arena of public opinion. It may be charged that such secret conduct is hypocritical. Isn't there a more honest and forthright course available? At this point, one is reminded that the most important recent advance in the interpretation of Great Britain's abortion law came only after one of the most eminent English obstetricians, Dr. Alec Bourne, defied the convention of secrecy in 1938 and announced publicly that he had aborted a fourteen-year-old girl who

had been impregnated through rape by several soldiers. Dr. Bourne was arrested and charged with an illegal act, as he desired to be, in order to clarify the English abortion statute. It was his defense that the wording of the statute, "*preservation of the mother's life*," not only meant her physical life but preservation of her emotional life as well. On this basis Dr. Bourne was found not guilty and the case has become a landmark in the history of English abortion law. Perhaps Mrs. Finkbine, by unwittingly but dramatically demonstrating the idiocy of our highly restrictive abortion laws, has helped arouse our whole nation to the need for their drastic overhaul or reinterpretation.

As stated earlier, in some hospital reports, cancer is the third most frequent indication for therapeutic abortion. The rationale here is that if the woman has had a cancer of the breast or thyroid and later becomes pregnant, there is the possibility that the hormones of pregnancy will stimulate the growth of any tiny malignant cells which may have been left either at the site of the previous operation or which may have metastasized (spread to distant areas in the body). In such an instance pregnancy itself could not kill the woman but would simply hasten her death. If cancer cells lie dormant, in all likelihood they will eventually become active and reassert themselves. Thus pregnancy does not create cancer cells but may speed their reactivation, bringing them out of hiding, as it were. Many doctors will validate an abortion in these cases; some, however, argue that since the pregnancy does not cause the cancer but simply may accelerate the activity of dormant cells, it does not come within the compass of the law that an abortion may be done only to save the woman's life.

In addition to these three major indications—psychiatric illness, eugenic considerations, and previous malignancy—a relatively small number of therapeutic abortions are still done for women suffering from one of the more traditional diseases: heart, kidney, lung, intestinal, neurological, and so on. But the operation is validated in only the most severe and exceptional cases of these diseases, when hazard to life through continuation of pregnancy is very substantial.

It is clear then that the current interpretation of our abortion statutes does not permit interruption of pregnancy in a large number of situations which many lay people probably regard as desperate. For instance, most doctors will not abort a woman with even a fatal disease, such as Hodgkins, leukemia, or multiple sclerosis, since the course of illness is not speeded up by pregnancy. Even though the odds are that the woman may not live long to care for the child, the fact that pregnancy itself does not threaten the extinction of life interdicts medical intervention. Similarly abortion requests are rejected for women who are incapacitated by emotional or physical illness, unless pregnancy worsens or reactivates an underlying mental condition sufficiently to threaten their survival by causing suicide to become likely. Our laws do not take into consideration the fact that a woman who is psychotic or perhaps bedridden with some neurological disease such as polio will be unable to tend to the child she will bear. Nor are we permitted to perform a therapeutic abortion when pregnancy is the result of rape or incest, not even when the impregnated female is still a very young child of twelve or thirteen who does not even know the sexual source of her pregnancy. The reason that sex crime is not regarded

as an indication for therapeutic abortion is that continuation of pregnancy does not threaten the mother's physical survival.

No state abortion statute takes into consideration the quality of offspring or the environment which the parents can offer for the healthy upbringing of the child. A woman who is an incurable drug addict or alcoholic with no desire for a child, and who certainly cannot offer the child a happy and emotionally stable environment, if pregnant must perforce bear the child.

These are the limits imposed on the practice of medicine by our abortion laws which trace their lineage to the English law of 160 years ago. Many believe that these outmoded statutes prevent the practice of modern twentieth-century medicine and drive many women, who have a valid reason for abortion, into the hands of illegal abortionists. There is little likelihood of change until the men sitting in our state legislatures feel the pressure for reform from the people most intimately concerned—the women themselves.

### *Attitudes of the Major Religions*

The legal framework governing abortion reflects in part the underlying attitudes of the major religious groups in this country, most of which either have been wholly negative toward therapeutic abortion or at the most begrudgingly permissive. The Roman Catholic attitude perhaps is the clearest. Abortion is never permitted when termination of pregnancy is the prime motive for the operation. It is

permitted only when there is some underlying pathology for which a necessary operative procedure is carried out and the termination of pregnancy is the natural by-product of this necessary operation. For example, ectopic or tubal pregnancy may be operated upon because it is necessary to remove the tube in order to save the mother's life. The motive for operating is preservation of the mother's life, and termination of pregnancy is only an unintended result associated with the life-saving procedure. Another example is furnished by ovarian malignancy. In such cases, modern gynecology dictates the immediate removal of all the pelvic organs, not only the cancerous ovaries but the uterus as well, even though pregnant.

Nearly all Protestant denominations have come to accept abortion when it is necessary to save the life or health of the mother. Moreover, leading Protestant groups today are devoting serious study to the changing medical definitions of life and health, in the light of increasing insights into the emotional and social factors involved. Protestant hospitals—and many nonsectarian institutions which generally follow the Protestant approach—will accordingly validate therapeutic abortion within the framework outlined above.

Jewish thought likewise approves of abortion when it is required for a woman's life or health, holding that the mother's life has priority over that of the unborn fetus.

### *Applying for a Therapeutic Abortion*

Within the rigid requirements set by the laws, how does a woman secure a therapeutic abortion? The first step, of course, is to consult your family doctor who will evaluate your case. If he thinks your condition satisfies the requirements of one of the hospitals in which he works, he will bring the case before the hospital, or if the routine calls for the concurring opinion of consultants first, he will arrange that you see them. If he suspects that your case would be approved in a hospital other than one in which he works, he may refer you to a physician on the staff of the more lenient institution.

Hospitals have created various mechanisms to screen applications for therapeutic abortion. Sometimes the hospital director makes the yes-or-no decision. In other institutions the decision is up to the head of the Department of Obstetrics and Gynecology, or perhaps to two senior staff physicians.

In many hospitals, a formal board is established to evaluate these cases. The board is often composed of the head of obstetrics and gynecology, and several other heads of departments, such as psychiatry, surgery, medicine, and pediatrics. The facts of each case are presented in writing to the board, and in some hospitals, like Mount Sinai, the operation is permitted only when all members agree unanimously that it should be done. After such a board has been in existence for a period of years, its policies are so well

known that doctors at the hospital will submit only the relatively few cases which meet the strict requirements.

If your doctor does not believe your case would be validated or if your application has been rejected—and if you are still determined to secure an abortion—you have several choices, none of them promising.

You can, if you have enough time left in your first three months, shop around among other doctors and hospitals in your area. Most often this is futile; if your condition is such that you might be approved at a nearby institution, your doctor most likely would have suggested it.

Second, you can consider trying a state where the wording of the statute is a trifle more permissive. The differences in statutory language, however, may lead to false hopes; from my experience, there is not very much difference in the requirements for therapeutic abortion between, for example, Maryland, where the law allows abortion to secure the mother's "safety," and New York, where it is legal only to save the mother's "life."

The third alternative, available only to women in comfortable circumstances, is to consider traveling to another country where legal abortions are permitted on much broader grounds than in the United States. As we have seen, this was the solution Mr. and Mrs. Finkbine finally chose; they went to Sweden, which permits abortion for reasons of general health, and for socioeconomic, emotional, eugenic, and "humanistic" indications as well as urgent medical necessity. Similar policies are followed in the other Scandinavian countries. In Japan, and in Russia, Hungary, Czechoslovakia, Poland, and Bulgaria, abortions are permitted virtually on request. In several other coun-

tries, although the laws may be strict, actual practice is quite permissive, and sometimes it is possible to secure a legal abortion. Such countries are Switzerland and Israel.

If you are determined to seek abortion in a foreign country, make an effort to find out if the country you choose will consider your case favorably. As soon as a foreign country learns it is becoming the happy hunting grounds for American ladies "in distress," it becomes increasingly resistant to such an American invasion. By all means, get a medical contact in the country and communicate with him before starting out.

### *Illegal Abortion*

The overwhelming majority of women will find none of these alternatives useful. For every patient who manages to secure a legal abortion within a hospital, a huge number want one but don't even apply—or are rejected if they do. And among these, there are an estimated ninety-nine out of a hundred patients who are desperate enough to resort to an illegal operation. If you are one of the latter, there is not much practical advice that an ethical physician can offer. But in making up your mind, you are entitled at least to have the facts about illegal abortion, in so far as we know them.

There are no precise incidence figures, for there is no central registry at which abortionists tally up how many times they break the law, whether they are doctors or other illegal operators. We can only project the figures we have from small studies. One important source of information was the monumental investigation of American sex prac-



tices conducted by the late Dr. Alfred Kinsey; his interviews with more than 5,200 women revealed that nearly one-fifth of all conceptions among married women were aborted—more than one-quarter among women who were thirty-six years old or over at the time the study was made. Unfortunately, Dr. Kinsey's sample was not what the statisticians call a representative one, that is, it did not match exactly the population of the United States in such characteristics as age, education, economic status, race, religion, and so forth. Therefore his results cannot be projected directly as true for the nation at large; they can only be used as guidelines.

From the Kinsey data, and from a few other studies, we can make a fairly informed estimate of the incidence of abortion. When this information is combined with the everyday observations of physicians who specialize in obstetrics and gynecology and can gauge the demand for abortion as well as some of its consequences, the conclusion is drawn that something like a million women undergo abortion in the United States each year.

Who are they? The common belief is that they are usually unmarried girls who are promiscuous and "get caught." This is a comforting, even if sanctimonious, thought for a society which seems unwilling to face up to the fact that illegal abortion is probably our most serious medical and social disease. But it is just not true. The records of criminal abortionists and all other available evidence show that the overwhelming majority of women who go to abortionists are respectable married women who, for reasons they deem good and sufficient, are determined not to have another child. In Kinsey's sample, approximately 22 percent of all married women had at least

one abortion by the time they reached forty-five. Put another way, at some time during marriage, almost one out of four wives was so desperate that she was willing to endanger her life to terminate an unwanted pregnancy.

Apart from any other information we have, these figures themselves make clear that abortion touches every walk of life and every corner of the nation; virtually every town and hamlet has its criminal abortionist. For a million operations—or even half that number—cannot possibly all be done in the rear of grocery stores and on kitchen tables; the number of operations is so huge as to reveal unmistakably that most of them are performed by trained doctors. Indeed, 87 percent of the abortions in Kinsey's study were done by physicians. Practicing abortionists, moreover, have indicated that at least half their patients are referred by legitimate doctors who are on the horns of a dilemma: Their conscience hurts them for being so puritanical and not doing an operation which they deem right; yet their ethical standards forbid them to break the law. Therefore they compromise by referring the patient to medical lawbreakers. True, this is illegal, but it is human: Many conscientious physicians are reluctant to send their patients away without some recommendation for fear they will wind up in the hands of amateur butchers.

In fairness, it must be said that these physicians-turned-abortionists frequently do a creditable job. Some offer a margin of safety fairly close to that in a good hospital, the main difference being that the individual practitioner may not have an anesthesiologist working with him and usually does not have access to blood transfusions and other equipment for emergencies in a hospital operating room. Some of these men have added to our technical knowledge; I

knew one who had even made some skillful modifications in the surgical instruments employed.

It is impossible to state accurately how dangerous abortion is when performed by a doctor-abortionist, but there is reason to believe that the hazards have been exaggerated. In official statistics (which cannot be regarded as complete), there has been a substantial decrease in deaths attributable to abortion during the last thirty years, doubtless as a result of improvements in medical practice and the introduction of the miracle drugs, sulfas and antibiotics, which prevent the spread of infection. From an annual average of 2,090 during 1933 to 1938, the number of deaths attributed to abortion dropped to 258 during the period from 1954 to 1957. One criminal abortionist reported that he lost only two patients out of more than 5,200 abortions performed over twenty years, even before the antibiotics era.

In any clandestine system like that associated with illegal abortion, economic discrimination in medical service is intensified and there is a kind of class privilege even in survival. The woman who can afford \$1,000 goes to a competent doctor who does a very good and safe job. The woman who has only \$50 ends with a person who lacks medical training—perhaps a so-called “midwife,” medical technician, or hospital orderly who has gained pseudo knowledge by having seen the operation done by skillful physicians. (The granny type of “midwife” should not be confused with the rare, wonderful person in this country, the nurse-midwife, who never resorts to these procedures to earn a living.) In this situation, the dangers are multiplied manyfold.

### *The Dangers of Self-Inflicted Operations*

But the most serious hazards, by far, are reserved for the woman who has only \$5. She goes to no one, but since she is no less desperate than the wealthier women, she tries to induce the abortion herself. Here, I believe, is the source of most abortion deaths.

The tragic stories of these women can sometimes be pieced together from relatives or friends, and from the evidence at the autopsy table. Perhaps the first stop is the druggist, inquiring after some medication to induce the abortion. The druggist may suggest ergot pills, which may check bleeding from the uterus, but are worthless in bringing on menstruation once pregnancy has begun. Or he may suggest some other pills currently in fashion, despite the fact that no medication on the market is known to be capable of inducing abortion safely. The woman takes the pills faithfully as instructed, but her condition doesn't change. Growing more desperate, she learns from a friend that the abortion can be done by inserting "something" into the cervical canal in order to rupture the fetal membranes and stimulate uterine contractions and expulsion of the fetus. A fantastic variety of instruments have been used for this purpose—hatpins, knitting needles, slippery-elm splinters, or bougies (a stiff rubber tube used as a catheter to draw off urine). The danger, of course, is that in this process the uterus can be perforated, leading to serious hemorrhage and infection. By the time many of these women arrive at the hospital, their condition is hopeless.

This, then, is the limit of practical guidance I can give about the ugliest chapter in American medicine. It is, admittedly, a terribly inadequate guide for any woman who must make the agonizing choice between her determination not to go through with an unwanted pregnancy and the hazards of a sordid operation. I am afraid, however, that the advice medicine can offer such women will remain pitiful until all of us demand abortion laws adequate to meet modern family needs and to permit physicians to practice modern medicine.

### *Reform of U.S. Abortion Laws*

There is a great deal of ferment throughout the country to liberalize our archaic state abortion statutes. The primary focus is to create realistic laws which will permit non-Catholic physicians to practice modern medicine taking into account not only the life of the mother but her health as well, the circumstances under which impregnation occurred and the quality of offspring, not only its normality but the adequacy of the environment in which it will be born and raised.

As early as 1959, the American Law Institute, a small, intellectually elite group of leading lawyers, jurists, and legal professors, wrote a new abortion law as part of a model penal code. In 1960 the Los Angeles County Grand Jury passed a resolution requesting a new statute for California. Currently the Bielsenson Bill is before the California State Legislature. In the fall of 1964 the medically prestigious New York Academy of Medicine requested liberalization and modernization of the New York Abortion

Statute. A bill was introduced to accomplish this end in the New York Legislature in 1965. Probably no new law will be enacted for several years, but it is highly likely that within the next decade several states will amend their outmoded abortion rules.

A national organization to reform abortion laws throughout the country was organized in New York in 1965. It is called the Association for Humane Abortion and is located at 250 West 57th Street. The topic is getting wide coverage by all the news media. In March 1965, "CBS Reports" devoted a one-hour telecast to an examination of the global situation in regard to legal and illegal abortion.

Relaxing our abortion statutes to enable good and humane medical practice will not eliminate or even markedly reduce the incidence of illegal abortion. To do this, America would have to emulate Japan and the Iron Curtain countries by making abortion obtainable on demand to anyone desiring it. This I oppose because I think our country is not ready for it yet. Perhaps it will be in 50 years.

PART 3

*To Those Denied  
a Child*





*The Treatment of  
Infertility*

IN THE UNITED STATES each year, wedding bells ring for approximately a million and a half couples. Undoubtedly, almost all new husbands and wives look forward to having children as the most cherished gifts each can give to the other. For the great majority, their dreams of parenthood will come true quite naturally. For them, as we have seen, the only aspect of fertility that needs special attention is the control of it—so that their babies are not born sooner or more often than they desire. But for scores of thousands of new couples each year, there will be the deeply disappointing discovery that they seem to be unable to have the babies they want so much. Most tragically, infertility thwarts their efforts to have any children at all; but many couples also suffer from “secondary infertility”—inability to have subsequent children after one or more have been born. Perhaps 15 to 20 percent of married couples—up to one couple in five—are precluded from having any children, or as many as they want, because they are infertile or subfertile.

There would be little point in discussing the sad plight of these husbands and wives, except for one important medical fact: A sizable proportion of them—variously estimated at one-third to one-half—could be helped to have children if they received prompt investigation and treatment. During the 1960's I confidently expect that the

proportion of infertile cases which can be treated successfully will grow considerably as a result of medical advances. Contraception and treatment of infertility are often described as "two sides of the same coin," and, scientifically, this analogy is most appropriate: Both concern the intricate process of human reproduction. On the contraceptive side, we seek to prevent the process from starting; on the infertility side, we seek to find out where the process has been blocked and to remove the obstacle. Expanding research in reproductive physiology is giving us new knowledge for both the development of new contraceptives, such as the pill, and perfection of new cures for infertility.

While effective treatment of infertility on any appreciable scale is a twentieth-century phenomenon, barren marriage has been a subject of folklore and serious inquiry for tens of centuries—almost, it seems, since man first discovered the relationship between intercourse and reproduction. The famous Ebers papyrus from ancient Egypt, written 4,000 years ago, records this test for female fertility: "Watermelon, pounded and bottled with the milk of a woman who has borne a male child; make it into a dose. To be swallowed by the woman. If she vomits she will bear; if she belches she will never bear." Dozens of other tests and nostrums suggested from before the dawn of medicine were equally crude—and useless.

But some fact was mixed with fancy even in ancient times; apparently the early Hebrews realized, for example, that the male as well as the female could be the cause of a childless union. We read in Deuteronomy (VII:14), "There shall not be a barren male or female among thee." The facts on infertility, as on so many human ills, have been accumulated with painful slowness—while many of the

myths have persisted with remarkable tenacity. An ancient Greek medical text attributed to Hippocrates states that a woman is most fertile right after menstruation. This untruth persisted as medical gossip until disproved only a few decades ago.

Today, for a few couples, infertility presents no problem; the husband and wife prefer for one reason or another not to have any children. But these marriages are rare exceptions in modern America where two to four children is the very widespread family goal. Even couples with no strong desire to raise families find themselves doing so, in part because it is "the thing to do." Our culture almost compels us to marry and have children; to remain single, or to be married without having children, is to make one feel different from almost everyone else. Only about 8 percent of Americans never marry.

So not only the genuine and profound human desire for children but also the pressures of society put a great premium on parenthood. This heightens the disappointment and frustration felt by those who have tried in vain to become parents. I have seen the tension mount in many cases. Typically, the couple has been looking forward to parenthood for some time. When they decide they are ready to have a child they discontinue using birth control and attempt to conceive. After several months of unprotected intercourse without pregnancy resulting, they begin to suspect that something is wrong. After more months they are anxious and upset. Sooner or later they face the question, "Does this mean we are not going to have our own babies, ever?"

The results can be tragic indeed. Husband and wife may blame each other; often the wife accepts this "blame"—

after all, women bear the children, don't they? If none are born, it must be the woman's fault. Family and friends become involved in discussing the dilemma—inevitably, I suppose, but unfortunately. I know of a case in which a young man married a girl against his mother's wishes. When it became evident that the son and his wife were unable to have children, the mother was quick to say, "You see—she's just too cold to have children; God doesn't give babies to mothers who don't have love and warmth for them." Of course this is nonsense. And certainly such gossip and emotion are the worst background for facing the problem squarely and trying to do something about it.

The stark tragedy of involuntary childlessness is very difficult for fertile couples to appreciate. My consultation room, as those of all other gynecologists, is the scene of much tearful frustration. Paradoxically, the woman who weeps because of her barrenness is often followed in my office by the woman who weeps because of her excessive fertility.

What should be done when there is difficulty in achieving a pregnancy? My advice is simply this: If the couple is young—if both husband and wife are under thirty-five—they should persist with their attempts to conceive for a full year before seeking medical help. But, if either husband or wife is over thirty-five, they should seek medical help after only six unsuccessful months. Quicker action for older couples is advisable because, as noted in Chapter Two, childlessness is more common among women who marry late than those who marry early. In a meticulous study recently completed among United States wives in the thirty-five to thirty-nine age bracket, only 6 percent of those who married at twenty-one or younger had no

children, while 11 percent of those who married between twenty-two and twenty-five were childless, and the percentage rose to 20 for those who married at twenty-five years of age or older.

The choice of a doctor skilled in the treatment of infertility may be difficult. This field of medicine is relatively new and complicated, and most family doctors are not specially trained for it. However, your family doctor will usually refer you to a competent specialist if you ask him. Many infertility specialists belong to the American Society for the Study of Sterility; names of its members in your area may be obtained from the Society's Secretary, Dr. Herbert Thomas, 920 South 19th Street, Birmingham 5, Alabama. If you feel you cannot afford treatment by a specialist in private practice, there are local infertility clinics in most parts of the United States. Many of these are connected with the Planned Parenthood Federation of America, and can be located through Federation headquarters at 515 Madison Avenue, New York 22. In New York City infertile couples are especially fortunate because the world-famous Margaret Sanger Research Bureau is available to them. The "Bureau," as we call it, is probably the biggest, and perhaps the best infertility and contraceptive center in the whole world. Of course, it is not a profit-making institution, but it must charge something since it does not have sufficient funds to treat patients free.

There are three phases, overlapping in places, in the treatment of infertility: *Education*—of the couple to help them understand the medical approach to their problem; *Detection*—in which the physician gathers and analyzes the relevant facts about the man and woman; and *Therapy*

—in which the physician attempts to remove whatever obstacles he may find to successful pregnancy. I shall cover the first phase and part of the second, plus some other general matters, in this chapter, and then proceed to separate chapters on evaluation and therapy of first the male and then the female.

Let me emphasize at the outset that in all three phases the active cooperation of the husband and wife is essential. In many other kinds of medical treatment—an appendectomy, for example—the medical profession mainly does something for and *to* the patient. But the correction of infertility, for fairly obvious reasons, involves mainly doing something *with* the patient—a process in which the man and woman usually must become energetic participants.

The educational part of infertility therapy usually begins with the specialist devoting some time to explaining just how conception occurs—and the variety of reasons why it may not occur. One of the first facts he will impress on the couple is that failure to conceive is caused by the male almost as often as the female: Clinical evidence shows that the male is the *primary cause* of infertility in some 40 percent of marriages that are involuntarily childless; a number of authorities believe that the man is at least a *contributory cause* in as many as 60 percent.

The importance of both male and female as causes of barren matings explains why infertility cases must be dealt with as couples, rather than as individual men and women. The specialist will assure the couple that infertility is nobody's "fault"—any more than being color-blind is one's fault—and therefore no one need feel ashamed or guilty about it. I would hope, also, that he calls attention to the fact that infertility has nothing whatsoever to do

with "manliness" or "womanliness." Some of our greatest soldiers and athletes have been infertile—as have some of our most feminine or "sexy" leading ladies.

As I described in an earlier chapter, the essence of the process of conception is the dramatic moment when a healthy sperm cell from the male unites with a healthy egg, or ovum, from the female. The union of sperm and egg—called fertilization, or impregnation—takes place the instant a single sperm cell enters directly into the egg by penetrating its outside covering. Once this happens, pregnancy has started. The union occurs in the Fallopian tube, down which the egg travels from the ovary. After fertilization, the egg completes its journey down the tube into the womb (uterus) where it grows throughout pregnancy and slowly develops into a baby. During the first eight weeks of pregnancy, the unborn infant is usually called an *embryo*, while during the later months before birth it is called a *fetus*. About eight and a half months after conception, or nine months after the beginning of the last menstrual period, the fully formed infant is born.

Infertility occurs when the union of sperm and egg fails to take place, when the fertilized egg does not develop properly or when the *conceptus* (the embryo or fetus) is expelled from the womb too incomplete to survive outside its mother's body. There are at least *nine* biological prerequisites for achieving parenthood in the usual manner. Four pertain to the male: (1) Production of healthy live sperm in sufficient numbers, by at least one testicle. (2) Secretion of seminal fluid—the whitish, sticky material ejaculated at orgasm—in the proper amounts and composition to transport the sperm. (3) An unobstructed seminal "throughway" from the testicle to the end of the penis.

(4) Ability to achieve and sustain an erection and to ejaculate within the vagina.

The other five biological requirements for reproduction pertain to the female: (1) At least one ovary that functions normally enough to produce a mature egg. (2) A normal womb, properly prepared by chemicals fed into the bloodstream by the ovary to become the "home" of the developing fetus. (3) An unobstructed genital tract—from the vagina up through the Fallopian tubes to the ovary—enabling the egg to pass down and the sperm cells to pass up. (4) A uterine environment which adequately nourishes and protects the unborn child until it is able to live in the outside world. (5) Safe delivery of the infant.

In the second or *detective* phase, the infertility specialist applies his knowledge to discovering which of the nine biological requirements for reproduction—or which combination of them—is not being met. He begins by compiling a medical history of both husband and wife—through interviews with each of them and from past medical records. All kinds of things may have importance here. For example, mumps can sometimes cause sterility if a man has suffered a severe case involving his testicles as well as his salivary glands, during or since adolescence. Among women, abdominal surgery sometimes leaves internal scar tissue that creates an obstacle. Some varieties of venereal disease, if not properly and promptly treated, can have the same effect in both men and women. A tuberculous infection involving the reproductive organs likewise may destroy fertility. The doctor also will want to know if either husband or wife has been married before, and if any children resulted from previous marriages.

He will also seek to learn—usually in separate talks with



wife and husband—about the couple's sex knowledge and sex habits: How often do they have intercourse and under what circumstances? Do they realize that any woman is fertile for only a few days a month, about two weeks before her next menstrual period? Does the wife find intercourse painful or unpleasant? These are intimate questions, to be sure, but any one of them may help detect a cause of infertility in a particular case. A fair proportion of women who say they find intercourse painful are also childless. The pain may be of entirely physical origin, or may stem completely from emotional difficulties which I shall touch on shortly. It may result from a vaginal infection which also interferes with pregnancy. Or there may be a very simple explanation of a couple's childlessness: To facilitate intercourse, some couples unwittingly use certain kinds of lubricants which injure sperm cells and reduce the chances of conception; the physician will check on this also during his initial interviews.

During the detective or educative phase it is not uncommon for the "infertile" couple to discover suddenly that the wife is—of all things—pregnant! Of course the couple is delighted, but usually a little embarrassed: Wasn't it silly to seek help they evidently didn't need? The specialist will tell them that the very fact they did seek help may have enabled them to conceive. My great friend, the late Dr. Abraham Stone, determined, in a study of 500 infertility cases treated successfully at the Margaret Sanger Research Bureau, that 122 of the wives conceived very soon after coming to the Bureau, before any specific therapy was undertaken.

Similar studies at Presbyterian Medical Center in New York and Duke University in North Carolina also have

shown that a substantial proportion of couples seeking infertility treatment became pregnant during the examination period. It would appear that the process of confronting the problem and seeking assistance, of turning the problem over to "the experts," so to speak, helps some patients to adjust in a way that often aids fertility.

These pretreatment pregnancies have figured importantly in discussions among doctors in recent years about emotional, or psychological, factors in the problem of infertility. Some physicians still prefer to think that such factors do not cause childlessness. Of course, putting the blame on some mysterious emotional quirk may be an easy alibi when no organic cause, or causes, of infertility can be found in a particular case. But that is not a good reason to discount emotional causes entirely, especially when it is well recognized how emotional influences can indeed affect reproductive functioning in a number of ways. A striking example is the condition of "false pregnancy" in women who neurotically convince themselves that they are pregnant when they are not; they may develop such clear signs of pregnancy as cessation of menstruation, swelling of the abdomen, and enlargement of the breasts. Another more common example is the great disruption which may occur in the menstrual cycle before or during the honeymoon—as a result of bridal anxiety or just plain excitement.

To be sure, the emotional aspects of infertility have not yet been well explored. There are, however, conditions of acknowledged psychic origin, including most cases of impotence and frigidity, which obviously can contribute to childlessness. Such cases are well documented in medical literature. Here is an example, reported by Dr. James

A. Peterson of Los Angeles, involving emotionally rooted abnormalities in both husband and wife:

A very shy couple was married after a long courtship. Two years later they sought medical help for infertility. The physician interviewed husband and wife separately, and discovered that although they had earnestly (perhaps too earnestly) tried, they had not succeeded once—in well over twenty months of matrimony—in completing the act of intercourse. Their love for each other was evident and genuine. But the husband could not maintain an erection, and the wife, during their futile attempts at coitus, suffered such painful vaginal spasms (a condition called *vaginismus*) that intercourse would not have been possible anyhow.

The physician discovered also that both marital partners were abysmally ignorant about sex—apparently because they grew up with such morbid attitudes toward intercourse and reproduction that as adults they shied away from all information on the subject. The doctor could find nothing organically wrong with either and referred them to psychotherapists for help. As the young man and woman began to learn more about sex functioning, distastefully at first but gamely, and were helped to explore their individual sexual problems, their distorted attitudes toward sex began to diminish. Their misinformation about sex was replaced with facts; their negative emotions were gradually replaced by positive ones. Finally they were able to achieve normal intercourse—and at last, pregnancy.

Such examples are rare indeed. Cases in which one marriage partner or the other is afflicted with some psychic obstacle to conception are more common, even when the couple is able to engage normally in intercourse. There is

evidence that severe anxiety may cause obstruction of the Fallopian tubes—probably because the surrounding muscles become “all clutched up” and simply squeeze the tubes shut. Both anxiety and its consequences may occur beneath the level of consciousness. Subconscious worry may even cause ovulation to occur erratically or to stop altogether. The delicate hormonal timing mechanism of the reproductive cycle, centered in the pituitary, may be thrown so far out of kilter by anxiety that, according to some authorities, ovulation may occur during menstruation, when intercourse is least likely to take place.

In some cases, as in certain instances of tubal obstruction, it may be more expeditious to deal directly with the organic defect instead of its apparently emotional cause. In other cases, psychotherapy may be necessary or desirable to get at the roots of the problem. A woman may consciously and desperately want babies with all her heart—but still may harbor some irrational and unconscious fear of doctors, hospitals, or childbirth which reacts on her reproductive mechanism.

This suggests an intriguing parallel between success in birth control and success in achieving pregnancy: In Chapter Nine it was shown that adequate information about sex can change personal attitudes, making it easier for some women to use contraception effectively and to be more relaxed in their sexual relationship. Similarly, it appears that sex knowledge gained by a couple in the wholesome context of medical efforts to solve an infertility problem also can lead to healthier sex attitudes. This may in part explain why so many supposedly infertile couples achieve pregnancy during the *educative* phase of dealing with their problem—before actual treatment

begins: As they learn more about the marvels of human reproduction, the whole wonderful sexual process from intercourse to childbirth often becomes less mysterious and frightening, and thus they may be freed in their minds from fears generated years before. This transition of attitude, a by-product of learning, may in turn help remove emotional obstacles to normal reproductive functioning.

While emotional factors in infertility doubtless exist, the majority of infertility cases stem from identifiable biological causes. As I outlined earlier in this chapter, there are at least nine biological prerequisites of reproduction. One thing that makes the study of infertility so challenging is that many cases do not have a single cause—they have several. In my own practice, I have dealt with cases involving six or seven out of the nine factors. It is most gratifying that even in such complex cases, we often succeed in helping the couples become parents. The treatment of male and female infertility will be dealt with in the next two chapters.

*Infertility in the  
Husband*

A SENSE OF HUMOR always helps—and that applies to both the infertile couple and the physician engaged in the often lengthy treatment involved. I recall one young couple who had moved recently from another city; they had been under the care of a general practitioner and I suspect had not been instructed carefully enough in the physiology of reproduction. Thus they had followed the simple logic that the chances of conception should increase proportionately with the frequency of intercourse. When I explained that in some cases of male infertility, too frequent intercourse may even lessen the chances of conception (as we shall see), the husband said, "What a pity—but then, we certainly *do* need more sleep!"

The man's role as a frequent cause of involuntary childlessness is less complex than the woman's—but often more difficult to treat. After the initial medical interviews with both husband and wife, the infertility specialist first proceeds with tests on the husband. Since the male's sexual organs are not as intricate as the female's, there are fewer things in the male that can go wrong. And of course performance of the male function in reproduction is relatively brief whereas the female function merely begins with intercourse. Thus it is better to test the fertility potential of the husband first, rather than devote extended tests and

treatments to the wife and then discover that the infertility cause is in the male marriage partner.

The husband's contribution to fertility is carried in his semen so the crux of infertility investigation in the male is the thorough study of this substance. If the quality or quantity of semen is found to be abnormal in any significant way, then the focus of treatment must be on the organs that produce and conduct it from his body into that of his wife. Assuming that the husband is able to engage in intercourse normally, the physician will be primarily interested in answering these questions about his semen: Does it contain sperm cells? How many? Are they alive? Are they vigorous? How long do they remain active? Are they normal in size and structure?

A sample of the husband's semen may be obtained in one of three ways: By masturbation into a clean, wide-mouth glass jar or bottle. By *coitus interruptus* (withdrawal before the male climax) and ejaculation into a glass container. Or by intercourse using a condom to catch the ejaculate. There are advantages and disadvantages to each method, but generally masturbation is best. If the patient lives at a great distance from the doctor, masturbation can be accomplished in the privacy of a separate room in the physician's office, thus making the semen sample available for prompt medical observation.

Withdrawal has the disadvantage that the very first few drops of the ejaculate are easily lost in the process of collection, and since the bulk of the sperm cells are in these first drops, their absence from the semen sample will result in a false picture of the quantity of spermatozoa. Intercourse using a condom has the disadvantage that the chemical properties of the rubber, and of the powder with

which the condom may be dusted before packing, may reduce the motility (ability to move) of the sperm. If it is necessary to employ this technique, the patient should wash the condom carefully in plain water and let it dry before use.

The Roman Catholic Church disapproves of masturbation, withdrawal, and the condom as means of acquiring semen samples. It does allow the insertion of a type of plastic spoon into the vagina before intercourse; some of the ejaculate collects in the spoon, which can be removed immediately after relations and its contents poured into a bottle. This permits the physician to make at least a partial analysis of the semen.

Aside from cell content, there are other properties of the semen which concern the infertility doctor: On ejaculation, normal semen is partly coagulated, or lumpy. But after a few minutes or so it turns into a homogenous liquid. If it does not liquefy properly, this can prevent conception because many sperm may be trapped in the gelatinous lumps. The volume of a complete ejaculation normally varies from two to four cubic centimeters—one-half to one teaspoonful. If it is more or less than this, fertility may be affected.

After these properties of the semen have been determined, the physician concentrates on the vital questions of its sperm content. It takes just one sperm to fertilize the ovum, but, amazingly, if there are as few as 10,000,000 sperm cells per cubic centimeter of semen, the chances of conception are remote and the husband is classified as "subfertile." A normal sperm count is 60,000,000 or more per cubic centimeter! Many couples ask, how can so many sperm cells possibly be needed? I answer that with a rid-



dle, or fable: Once upon a time there were two tumbling mountain streams emptying into the far end of a large lake. Somewhere, far up one of these streams, was a marvelous pearl. At the near end of the lake was a man with a great many tadpoles. He knew that the only way to find the priceless treasure was to dump the tadpoles in the lake and send them in search of the pearl. All the tadpoles, incidentally, were blind and had no sense of touch. How many tadpoles would it take to find the pearl?

In my fable, of course, the tadpoles represent sperm—which they resemble in shape (a sperm cell is about 1/500 of an inch long). The lake is the uterus or womb, and the two streams are the Fallopian tubes. This comparison is crude indeed—for instance, the uterus and tubes are moist but not full of water. But the fable indicates fairly well the terrible handicaps—and hazards of geography, so to speak—that the sperm must surmount to find the egg. So the more sperm—by the millions—the better. Many millions of sperm never get beyond the vagina or through the cervix.

Determination of sperm count in the semen sample is accomplished by a special technique involving use of a microscope and a diluting fluid which also immobilizes the swimming cells. It would be next to impossible to count rapidly moving sperm—just as it would be to count a rush-hour crowd at Forty-second Street and Broadway! The microscope also permits the physician to answer other critical questions about the husband's sperm cells. The tail of the spermatozoon, by lashing rapidly from side to side, serves as the cell's propeller. The swimming movement of the sperm may be sluggish or rapidly progressive in a straight line. Or the movement may be circular, like that of a dog chasing its tail. Straightforward progressive move-

ment is the only kind that can accomplish fertilization. Therefore when trying to evaluate the normalcy of a semen sample, the examiner notes not just the percentage of motile cells, but also the type of movement that predominates. Of course even the most fertile man has some motionless cells in his semen, and some whose movement is sluggish or circular. In normal semen, 80 percent of the cells in a specimen less than six hours old should show movement and at least half should exhibit a progressive type of motility. In a specimen kept at room temperature, some cells should be moving, at least feebly, even after twenty-four hours.

Microscopic analysis of semen also determines the proportion of cells that are normal in structure. In an average fertile man, about 80 percent of the sperm cells will be of normal size and shape. If less than this proportion is normal the physician knows that this may be a factor in the couple's infertility. Almost all men produce some sperm that are stunted or deformed; this is not significant as long as their proportion of the total sperm is not too high. Deformities in sperm are in no way prophetic of possible deformities in babies they might conceive: Only a normal, healthy cell can accomplish conception.

If the infertility specialist finds that the husband's sperm meets the various minimum requirements of quantity, motility, and normalcy, he usually proceeds with tests on the wife. Even if the semen sample falls below normal in just one particular, the husband may not be infertile. Most often, however, the various factors are closely correlated. For example, a low sperm count commonly occurs along with subnormal sperm movement, or with a high percentage of sperm deformities.

I mentioned earlier the difficulties some men encounter in facing the fact that they, rather than their wives, may harbor the cause of their childlessness. It seems to me that this psychic problem is less common than when I first began treating infertility three decades ago—perhaps because male infertility is a better known and therefore a more widely accepted phenomenon. Yet even today the problem does occur; sometimes a husband may accept the idea of male infertility in the abstract—as something that happens to somebody else. But when he discovers, in the course of tests such as I have just described, that it has indeed happened to *him*, he may find it very hard to accept. Recent medical literature describes the bizarre case of a husband who knew from previous tests that he had a very low sperm count, and when asked by a different physician to produce a semen sample, obtained one from a friend without his wife's or doctor's knowledge. His fraud was later discovered; evidently he had wished to keep his own infertility secret because he had persistently blamed his wife for their childlessness.

Not long ago, I was confronted with a similar case. When the couple first appeared at my office, the husband—very much the dominant member of the duet—briskly outlined the treatment I should give his wife. In the course of my taking their history, it came out that the couple previously had been seen by a medical colleague of mine. I later called him and discovered that his tests, as well as those of several other doctors, had revealed the husband to be sterile. When I faced the husband with the evidence, he confessed his duplicity. With much emotion, he said he was trying to keep the truth from his wife for fear she might seek a divorce.

These extreme cases suggest that men who are not willing to confront the truth of their own infertility are being rather childish; surely this sort of behavior is not at all "manly" in the way to which they pretend. Needless to say, it makes their treatment much more difficult, if not impossible.

About 10 percent of men seeking fertility help have no sperm in their semen at all. Either their testicles do not manufacture them or the sperm cells are blocked in their exit through the complex canals they must travel. To determine which is the case, a *testicular biopsy* is performed; this minor operation, entailing little discomfort, consists of taking from each testicle a tiny piece of tissue for microscopic study. Sperm are manufactured inside the testes in a labyrinth of extremely tiny tubes called *seminiferous tubules*. Each sperm cell takes weeks to develop completely. Normally, immature sperm remain fastened to the inside walls of the tubules, while only the mature cells are set free to move through the minute passageways and be available for ejaculation. Microscopic examination of the tissue obtained in the biopsy reveals whether the process of sperm development—called *spermatogenesis*—is proceeding satisfactorily.

### *Treatment*

Discussion of testicular biopsy provides a good point at which to shift from descriptions of *tests* for male infertility to *treatment*. If the biopsy shows that the tubules are generating sperm and are teeming with mature cells, then the absence of sperm in the ejaculated semen is usually

caused by some blockage in the passages—the *vas deferens* or epididymis—connecting the testes with the penis. Or, more rarely, some part of this delicate, connective “plumbing” may be missing—never having developed. The prospects for correcting such defects by surgery depend on the location and extent of blockage. The operation, performed to bypass the obstruction or deformity, requires surgical skill of the highest order. The tubes are so tiny that the surgeon may wear glasses with special magnifying lenses to enable him to see them clearly. At present, such operations are successful in about one-third of the cases.

If the biopsy reveals that no mature sperm are being produced, and yet the tubules and other tissues of the testes appear to be normal, medication with hormones may trigger the process of spermatogenesis into starting. The chances of success with this form of treatment, however, are slight. But I predict that progress in hormone therapy will be rapid in the next decade. It depends primarily on the isolation and manufacture of hormone compounds different from those now available. The key to success in many cases doubtless will be the preparation of an effective pituitary hormone in commercial quantities.

If the biopsy reveals that sperm are being produced, but only in limited numbers, the problems are quite different. This is a much more common condition than complete absence of sperm; some 40 percent of husbands seeking medical investigation of an infertile marriage have low sperm counts, or their sperm are not vigorous enough for the strenuous journey required of them. Occasionally, such deficiencies are found to result from a health problem of nonsexual origin; after producing poor semen samples,

one of my patients was found, after a general physical examination, to have previously unrecognized diabetes. When this was treated, his sperm picture improved and his wife bore him children.

Several medical treatments are available for men with low sperm counts. "Rebound" therapy is one technique that may be attempted. It is rather dramatic, when it works—and I profoundly wish it worked more often. It may be of value for cases in which the testicular biopsy discloses that the tubules are more or less normal, and that living sperm are being produced in limited quantities but many of them are immature.

First step in the treatment is to give the patient hormone medication in the form of a substance called testosterone, for eight or ten weeks. This frequently *reduces* the number of sperm being produced. During this period, the patient's body processes strive harder than ever to return his sperm count to normal; they "push back" against the sperm-depressing effect of the medication. Second step in the treatment is removal of the medication. When this occurs, there may be a "rebound" of sperm production to such an extent—at least temporarily—that greater numbers of sperm, and more mature cells, are produced than before treatment began. The net increase may be sufficient to enable impregnation.

Changes of diet, sometimes coupled with vitamin injections and a program of rest, may also be successful in raising sperm production. Similar treatment also may help build up sperm vigor. The production of too high a percentage of deformed sperm is likewise treated with diet changes, injections, and rest.

The importance of rest and relaxation deserves further

emphasis. Doctors C. Lee Buxton of Yale and Anna L. Southam of Columbia noted this in connection with combat airplane pilots right after World War II. Many pilots—certainly symbolic of modern “manliness”—were found to have subfertile sperm counts. This was first thought to result from prolonged flying at high altitudes. But later: “It was concluded that possibly the nervous strain, tension, emotional fatigue, and stress involved in this occupation may have had some effect on the sperm count. Certainly it is a not infrequent experience to see the overly busy, nervously and physically fatigued, and sometimes occupationally harassed male greatly increase a low sperm count after a period of vacation, outdoor exercise, sunshine and rest.” \*

Frequency of intercourse, in rare instances, may be a factor in male infertility. Physicians disagree on the “ideal” frequency for achieving pregnancy in cases of low sperm count, but there is evidence suggesting that if frequency is too high, sperm are discharged faster than they are produced and fertility may be impaired. Prolonged abstinence, on the other hand, may slow down sperm production by stimulating it insufficiently. In the average male, the supply of spermatozoa adequate to accomplish impregnation is fully replenished within twenty-four hours. In a subfertile man, a longer interval may be required. Some infertility specialists advise several days of abstinence before the wife’s mid-cycle, followed by intercourse both morning and evening of the day of calculated ovulation. Other physicians advise couples in which the husband suffers low sperm production to

have intercourse every forty-eight hours during the wife's fertile period, but much less frequently in the days preceding. I subscribe to this plan.

Successful treatment of male infertility often may be achieved through the use of surgical skill, adroit and systematic medication, or other techniques. But the overall ratio of success to failure for male cases generally is disappointing. As more is learned about the human reproductive system through research, the success ratio doubtless will climb. Meanwhile, thousands of couples who have been childless because of male infertility factors are now achieving parenthood by means of artificial insemination. This specialized form of infertility treatment will be dealt with in other chapters.



*Infertility in the  
Wife*

I RECALL my reaction in medical school when I first studied, in intricate detail, the chainlike process of human reproduction. Beginning with the development of the tiny eggs in the ovary, we had gone through the hormonal triggering of ovulation in the pituitary, the precarious but crucial union of sperm and egg, and on to the awesome, miraculous development of the embryo. I was much impressed with the stark fact that if any link in the long chain failed, reproduction would not occur. And I thought, "Ye gods, how can anybody ever have a baby if it's *this* complicated—yet most people do it without barely trying!"

Yet, as we know, thousands of people fail, no matter how hard they try. As we have seen, the medical specialist insists on treating each infertility case as a couple—a unit consisting of both husband and wife—because the cause of their childlessness may lie in either marriage partner, or both. If the tests described in the last chapter definitely establish that the husband is fertile, the doctor initiates a separate series of tests on the wife. She harbors a greater number of things that can "go wrong" with the reproductive process than her mate. However, in several ways, the possibilities for remedying infertility in the wife are better currently than in the husband.

The first question to answer about the woman is whether

she is ovulating—that is, producing an egg. Normally, a woman produces one mature egg each menstrual period; it is released by one of her ovaries and descends the Fallopian tube toward the womb.

While it is easy to examine a man's semen microscopically to determine the presence of sperm, it is very difficult and impractical actually to find and examine the woman's egg after it has been released. Only one at a time is discharged, as tiny as the smallest visible speck, and it remains deep within the body. Medical science has discovered various ways, however, to detect ovulation. One technique used in all infertility clinics is the BBT test—the initials standing for "basal body temperature." It depends on the fact that a woman's temperature drops slightly—a few tenths of a degree—just before ovulation and rises a half a degree or more soon after the egg has been released. To find out if—and when—ovulation occurs, the physician instructs the woman to take her temperature with a special widely calibrated thermometer each morning before she gets up, and then record the precise thermometer reading on a chart. She may be asked to do this every morning for several months, first to find out if she is ovulating at all and then to determine if she is ovulating regularly. As described in Chapter Six, this same procedure may be employed to determine the time of ovulation for the rhythm method of birth control.

Another test for ovulation is to examine the lining of the womb by painlessly taking a tiny piece of the lining shortly before or at the onset of menstruation. The medical name for this lining is *endometrium*, and the test is called an "endometrial biopsy." The sample of womb tissue is examined under a microscope; if ovulation has occurred,

the lining has undergone characteristic changes that the specialist can recognize.

There are other practical though more tedious tests for ovulation. They require the wife to visit the doctor for at least part of every month following menstruation. One of the easiest tests to perform—but one of the most difficult to evaluate medically—is the cervical mucus test. At the time of ovulation, and normally for a day or two before and after, this fluid in the short canal of the cervix, between the vagina and the uterus, is more copious, thinner, and “slipperier” than at other times of the menstrual month. This change in its liquid properties coincident with ovulation facilitates the sperm’s journey through the cervix, at the time when there is an egg available to be fertilized, in the Fallopian tube beyond. When ovulation does not occur, the mucus remains thicker and less plentiful.

Another means of determining ovulation is the cyclic vaginal smear. The physician lightly scrapes a small quantity of surface cells, or “smear,” from the walls of the vagina and places it on a glass slide for microscopic study. Ovulation is indicated when the vaginal cells in the smear, reacting to hormones discharged only after an egg is released by the ovary, appear completely “cornified,” or mature, under the microscope. Physicians who use this test must have special training, and so the doctor may refer his patient to a particular specialist for the vaginal smear procedure. It may be necessary to repeat the test several times to reach definite conclusions. This technique cannot be used effectively when there is any infection of the vagina or cervix, nor should it be used the day after intercourse.

Whenever ovulation occurs, a hormone called progesterone is secreted by cells which fill in the scar left in the ovary by ovulation. The hormone produces an excretion chemical by-product, called pregnanediol, which appears in the urine. Thus the detection of pregnanediol in a urine specimen is another evidence of ovulation. The test is rather a nuisance for the patient since it requires collection of 24-hour total urine samples for at least several days during the latter phase of the menstrual cycle. And the analysis of the urine is a complicated laboratory procedure. But there are cases in which the pregnanediol test is preferable to other tests.

Some research has been devoted to developing a simple test for ovulation which may be carried out by a woman herself in her own home. At least one device has been marketed in recent years which is supposed to detect ovulation by an easy litmus-type technique. A swab with a chemically-dipped bit of cotton, paper, or fabric at the tip is applied to the cervix and purportedly changes color if ovulation has occurred. The test is based on the belief that the sugar content of the cervical mucus changes markedly at the time of ovulation. Unfortunately, no such consistent correlation between changes in mucosal sugar and the occurrence of ovulation has yet been proved to the satisfaction of medical authorities, and so the test is considered unreliable.

Sometimes, when there is failure to conceive, the physician may decide to test the functioning of the thyroid gland, located in the neck. Twenty years ago, administration of thyroid extract was an almost routine treatment for infertility, but its value was found to be overrated. Still, it is appropriate in some cases where childlessness appears

to be related to depressed thyroid activity. A basal metabolism test, which measures the amount of oxygen consumed by a person at rest, is one way to gauge thyroid performance. Another test, called the BPI (bound protein iodine), consists of measuring by-products of thyroid secretion in the bloodstream.

If one test or another shows that the patient is ovulating, the next step is to discover whether the egg is being passed down the Fallopian tube. Perhaps it is not, because both tubes are blocked. The Rubin test is used to check this. Unlike many medical techniques that seem magical or mysterious to the layman, the Rubin test has the homely simplicity of testing and blowing out a garden hose. And yet it is entirely scientific and precise. The test is used both to check for obstructions in the Fallopian tubes and to attempt to stretch open any narrow or kinked portion. The doctor inserts a special metal pipe about a quarter of an inch in diameter into the opening in the cervix, the mouth of the womb. Air (or more precisely, carbon dioxide) is passed through the pipe under gentle pressure up into the Fallopian tubes. If the air flow continues, the tubes either were open to start with or have been opened by the air pressure itself. Air that passes through the tubes—just a small amount in any test—goes on into the abdomen and is harmlessly absorbed. If the Rubin test—"tubal insufflation" is the formal name for it—fails the first time, it may be repeated over a number of weeks or months.

*Hysterosalpingography*—this is the formidable name of another technique for determining whether the Fallopian tubes are unobstructed. It is similar to the Rubin test except that a special liquid, instead of a gas, is injected into the uterus. The liquid shows clearly on an X-ray pic-

ture of the lower abdomen taken immediately after injection. If the tubes are open, the X-ray discloses that the liquid has moved up through the tubes and into the abdominal cavity. If one or both of the tubes are blocked, the X-ray shows the place where any obstruction begins because the liquid can pass no farther. Like the Rubin test, hysterosalpingography may have therapeutic as well as diagnostic value since the fluid under slight pressure may in some cases remove a minor obstruction in the tubes.

Surgery also may be used to determine the kind and extent of tubal blockage. One technique is called culdoscopy. It requires the patient to enter the hospital briefly. A sedative or local anesthetic is administered, and a small incision is made in the vaginal wall. Through this opening is inserted a little instrument like a periscope with a light on the end. Looking through the culdoscope's series of small lenses, the physician can see the ovaries, Fallopian tubes, and other pelvic organs. This ingenious optical device is used to visualize the ovaries, the uterus, the tubes and to determine whether adhesions are present. If more thorough internal examination is necessary for an accurate infertility diagnosis, a *laparotomy*, or opening of the lower abdominal wall, may be performed. It requires a general anesthetic and hospitalization for at least a week.

The tests may reveal that the egg is being released on schedule and traveling down the Fallopian tube without obstruction. Now, will the sperm be able to swim up through the vagina, cervix and womb to meet it? X-rays of the cavity of the uterus, filled by a fluid which casts an X-ray shadow, may disclose some abnormal growth in the womb; a tumor, perhaps, is getting in the way to prevent conception or cause miscarriage during pregnancy.

Or there may be a kind of lumpy overgrowth, called polyps, of parts of the womb lining. Or there may be some congenital deformity of the womb itself. The physician then may choose to perform a "postcoital test"—called the Sims-Huhner test after the two doctors who popularized its use. This test is designed to trace the fate of the sperm cells soon after intercourse has occurred, to help determine why they may not be reaching the egg. Since the cervix is most receptive to sperm at the time of ovulation, postcoital tests are usually scheduled as close as possible to that time.

The couple is instructed to have intercourse without contraceptives not more than twelve hours before the test. Following intercourse, the wife should remain lying down, preferably for the remainder of the night, or the physician may request that intercourse occur in the morning—shortly before the wife keeps her office appointment. And in certain cases, the doctor may choose to provide special facilities for the couple in his own office suite, so that intercourse may take place immediately before the test. There may be important medical reasons why the infertility specialist wishes to examine the wife within two or three minutes after intercourse has been completed.

When the patient is ready for examination, the physician painlessly spreads the walls of the vagina apart with a speculum—a simple device with two rounded blades something like shoehorns—so that the cervix is visible. Samples of fluid from the vagina and mucus from deep in the cervical canal are drawn up, by suction, into separate slender glass tubes. These specimens are then studied under a microscope. In a typical test several hours after intercourse, sperm found in the vaginal fluid are dead, or at

least motionless. The secretions of the vagina are acid in their normal state and are damaging to sperm. But normally at intercourse, a great number of sperm gain immediate access to the narrow cervical canal. When the specimen of fluid taken from within the cervix after intercourse is studied, it should be found to be fairly swarming with live, active spermatozoa, since the cervical mucus is normally alkaline, which protects the fragile sperm cells and promotes their survival.

If quantities of sperm are found in the vagina, dead or alive, but only dead or motionless sperm are found in the cervix, it indicates that the cervical fluid is hostile, for one reason or another, to the sperm cells. They were able to penetrate the cervical opening all right, but could not remain vigorous after they had done so. This is decidedly abnormal because sperm usually stay active inside the cervix for twenty-four hours or more. If the postcoital test discloses plentiful sperm in the vagina but none, or very few, in the cervix, it might indicate that the cervical mucus is too scant or sticky to permit sperm penetration.

A single postcoital (p.c.) test may be inadequate for diagnostic purposes. It is usually necessary to repeat the procedure several times over a span of weeks or months. The major reason for scheduling repeated tests is the need to be sure that one or more of them coincide with the approximate time of ovulation. Repeated postcoital tests also may be required to follow up on sperm findings in the male; this is most likely to be the case when the husband is undergoing treatment for a subnormal sperm count or low sperm vigor. Progress can be charted by improvement in the wife's p.c. test.



### *Treatment*

When the cause—or one of the causes—of infertility in the wife is found to be failure to ovulate, the appropriate treatment of course depends on the individual case. Sometimes culdoscopy or other tests disclose that both ovaries are enlarged with a thickened, capsulelike covering. The injection of a course of hormones or chemicals derived from the adrenal gland produces miraculous cures in many cases. If not, a surgical operation involving the removal of a wedge-shaped portion from each ovary is likely to be successful, resulting in ovulation and soon thereafter pregnancy.

The triggering or stimulation of ovulation by means of drugs has been attempted for decades but without much success until recently. The development of new hormone preparations has brought some limited but gratifying advances. There is some evidence, perhaps slight, that putting the ovary at rest for two or three months by suppressing ovulation by means of the birth control pills may cure infertility in cases where no cause is discovered in either husband or wife. In a significant proportion of women who have never ovulated (primary anovulation) or who develop a secondary failure of ovulation, ovulation can be brought about by two new drugs, clomiphene or pergonal, the latter an extract of human urine collected from women past the menopause. The dosage of each drug must be very carefully regulated or two or more babies will result. In a famous case in New York a doctor overcorrected his patient's infertility, for she went home from the hospital with quadruplets.

X-ray treatment of the ovaries or pituitary to stimulate ovulation used to be medically fashionable but is no longer. Its effectiveness was not scientifically established. And recently it has been discovered that X-ray treatment of the reproductive organs—we stress treatment, not the simple taking of an X-ray diagnostic film—may cause genetic damage; that is, it may affect the hereditary process so that children of subsequent generations suffer an increased likelihood of physical or mental abnormalities. This statement is based on theory adduced from experimental observations made on fruit flies and mice. It is too soon to evaluate the theory on humans since generations of man require 30 years, and X-ray treatment of this type was begun only about 50 years ago. The use of complicated and impressive X-ray apparatus may have some psychotherapeutic value for women in whom emotional factors are inhibiting ovulation. But the genetic danger is a strong argument against this form of X-ray therapy.

The two basic approaches of surgery and medication may be applied to removing obstacles to the transport of the egg down the Fallopian tube, or to the movement of the sperm upward toward the egg. Polyps usually may be removed by scraping the womb lining, a simple and short hospital procedure under anesthesia. An abdominal operation is required to remove fibroid tumors of the uterus which may be preventing conception or causing repeated miscarriage. This surgical technique is called *myomectomy* (the removal of myomas, another term for fibroids), in contrast to *hysterectomy* which is removal of the womb itself. Obviously the latter operation renders the patient permanently sterile, whereas the purpose of myomectomy is just the opposite—to permit successful pregnancy.

Infections, which sometimes cause the Fallopian tubes

to swell shut and their walls to adhere together, are a common obstacle to the movement of the egg. If such adhesions are the cause of tubal blockage, surgery can correct this in about one case out of two or three. Antibiotics help clear up an acute infection of the tubes and may help in the chronic case, provided the illness is fairly recent. Heat treatments may be prescribed to help dislodge scar tissue, or to "unstuck" adhesions by increasing the blood supply to the area. If a woman has been sterilized by an operation in which her tubes have merely been tied—without removal of either the bulk of the tube or the uterus—there is a 50 percent likelihood of fertility being restored by surgery.

Rare defects in development of the womb, which may preclude conception or successful pregnancy, also may be dealt with surgically. Sometimes a woman is found to have two small wombs, which must be combined to provide adequate prenatal quarters for an unborn infant. Or the womb may have a partition of tissue down the middle which must be removed. Operations to correct such faulty uterine architecture are usually successful.

Tests may reveal that ovulation is occurring and that the Fallopian tubes and uterus are normal, but that sperm do not penetrate the cervix readily. As described in Chapter Three, the cervical canal is a simple circular passageway about an inch and a half long and an eighth of an inch in diameter at its narrowest point. Often it becomes the "bottleneck" so far as conception is concerned, since the upward journey of the sperm through it may be impeded. Commonly, this is caused by infection of the cervical glands which weakens the sperm or blocks their passage with pus or other by-products of inflammation. Or there may be inadequate cervical mucus to provide

“good swimming” for the sperm.

If sperm passage is blocked by infection, the physician may dispose of it by the use of antibiotics. Several years ago, many infertility specialists injected antibiotics directly into the cervical area to clear up such infections. Now, with the development of “broad spectrum” oral antibiotics, the physician may prefer to use these newer medications. The doctor also may need to clean away collected pus and help the mucus glands to function normally again by the application of chemicals or by electrical cauterization. The latter method involves burning away infected glands by applying an electrically heated iron. Little or no pain is felt during this procedure since the cervical canal has no pain nerves supplying it.

In cases where cervical mucus is too thick or scanty, small amounts of a hormone preparation, taken by mouth, may be given for several months. Frequently, if the woman is ovulating anyway, this medication greatly improves the quality and quantity of the cervical fluid. Poor cervical mucus can signify that there are other weaknesses of reproductive functioning—usually as a result of incorrect hormone balance. Therefore the infertility specialist carefully reviews other factors such as the presence or absence of ovulation while treating the mucus condition.

Sometimes there may be a slight abnormality in the shape or position of the vagina or cervix which prevents conception. A common fault is that the cervix is tipped too far back or too far forward, and its opening is not directly in line with the ejaculation of semen. When this appears to be preventing conception, the doctor may prescribe certain positions for the husband and wife to use

during intercourse. Or he may adjust the position of the cervix slightly, by manipulation or by inserting a plastic ring to hold it in a better position.

Once the union of sperm and egg has taken place, infertility is not always cured. An estimated 10 percent of all pregnancies end in miscarriage—or accidental termination before birth. Many miscarriages occur so early in pregnancy that the woman may never know she was pregnant at all. Perhaps her menstrual period is delayed a few days, and that is all the evidence there is. Miscarriages during the first three months of pregnancy usually indicate that something was wrong with the pregnancy—the sperm or egg may have been defective, or may not be developing correctly. This kind of miscarriage is usually just nature's way of correcting a mistake and getting ready to start over.

When miscarriage threatens after the third month, the baby often can be saved by bed rest and medication. In these cases, the likelihood that the cause of the trouble is a defective conception is much less. The probability of a normal birth and normal infant is excellent if the pregnancy can be sustained to completion. In some cases, the problem is that the cervix is not strong enough to hold the developing infant in the womb. Aside from keeping the expectant mother in bed, an operation may be performed under certain circumstances to help the cervix hold the pregnancy. If this weakness is detected before pregnancy, a different kind of operation will help strengthen the cervix.



*Artificial Insemination.  
History and Practice*

I WINCE when I hear artificial insemination referred to as producing "test tube babies." The phrase may not demonstrate excessive journalistic license but it does throw the whole matter into the wrong context. To be sure, this medical technique appeals to popular imagination. But it is a most personal, not impersonal, thing. Technically, it is the introduction of semen into the vagina by artificial means, means other than the penis of the male. It is used in special cases to achieve pregnancy when normal intercourse is precluded or fails to impregnate.

Artificial insemination has been a matter of lively interest for centuries. The odd combination of satisfaction, gratitude, doubt, and discord that still surrounds it is unique in modern medicine. It is significant that the gratitude resides with the couples whom "AI" has enabled to become the parents of deeply wanted children, while the doubts and objections are mainly ecclesiastical or legal. Various estimates—or informed guesses—suggest that perhaps 100,000 Americans owe their existence to this medical procedure and that the number is growing by the rate of at least five thousand, perhaps even ten thousand a year.

There are two kinds of artificial insemination: AIH—in which the "H" stands for use of the semen of the *husband*, and AID—in which the semen is provided by a *donor*, a fertile male, other than the husband, whose identity is

known to no one but the physician. In America and England, AIH is generally accepted as a normal medical procedure about which there is little question of propriety. Because AID is so personal and unusual, any couple contemplating its use should recognize its emotional elements and its occasional nonmedical complications. While the "medical mechanics," so to speak, are essentially the same in AIH and AID, the use of semen from a third party raises special questions about donor insemination that must be dealt with.

Historically, the artificial insemination of humans has its antecedents—as have numerous other respected medical techniques—in animal husbandry. Legend has it that among warring Arab tribes in the fourteenth century—when the quality of horses was as important militarily as the quality of missiles today—rival tribesmen would steal into the enemy's camp and inject the semen of inferior stallions into the vaginas of well bred mares. The folklore on AI extends also to mankind: A Talmudic document of the third century ponders the possibility that a woman might become pregnant by bathing in water in which semen previously had been deposited. A sober treatise was written a century ago describing a pregnancy supposedly caused when a rifleshot fired in the Civil War passed through the testes of a soldier and then lodged, with its coating of semen, in the abdomen of a nearby young woman. One cannot resist the observation that a fitting denouement for this incident would have been a shotgun marriage.

Seriously, the use of AI with domestic livestock has become a preferred method of breeding under many conditions. It is used widely with cattle, horses, sheep,



goats, swine, dogs, foxes, minks, rabbits, chickens, and turkeys. In 1945, 342,000 dairy cows were bred in this way in the United States and 400,000 in Denmark. In 1960, two-thirds of the calves born to dairy cattle in this country were sired artificially. The advantages of AI in animal breeding are numerous. It enables more efficient and frequent use of genetically selected sires, and it overcomes coital difficulties caused by differences of size and weight between the male and female.

This excursion into animal husbandry may be useful here to help would-be parents deal openly with one element of the emotional baggage which sometimes encumbers the use of AI among humans: Some people recoil from comparisons of themselves to lower animals, especially in sexual matters. So it is well worth recalling that most modern medical techniques and drugs owe their perfection to scientific studies and tests involving the lesser creatures of the animal kingdom. Indeed, this is a *sine qua non* of advanced medical research. Accordingly the widespread use of AI with livestock has contributed directly to its medical application among young couples whom fate has cruelly deprived of parenthood.

Scientifically, the record on AI began in 1680 when the Dutch physician Jan Swammerdam reported unsuccessful attempts to impregnate the eggs of fish. This was finally accomplished by Jacobi twenty years later. The famous Italian cleric and scholar of natural history, Abbe Lazzaro Spallanzani, in 1785 artificially fertilized an insect, an amphibian, and finally a dog. A few years later, benefiting by this earlier experience, the great British anatomist and surgeon John Hunter effected what may have been the first medically administered artificial impregnation of a

human. His patients were a linen merchant and his wife who had been deprived of children because the husband suffered a genital deformity. The husband could ejaculate, however, and Hunter simply injected the man's semen into his wife's vagina. The first recorded artificial insemination in the United States was accomplished in 1866 by the eminent southern-born, New York gynecologist, Dr. J. Marion Sims, who emigrated abroad during the Civil War and became physician to queens and princesses.

Today, recourse to artificial insemination with the husband's semen may be prompted by any defect of sex anatomy or function in either the man or woman which renders normal intercourse, or normal transport of sperm into the vagina, impossible. Modern medicine recognizes a variety of such conditions: The husband may be impotent because of premature ejaculations which make it impossible for him to deposit his semen within the vagina. Or his erection may be so flabby that introduction of the penis is impossible; impotence, of course, does not mean sterility. Or he may suffer from *hypospadias*, a deformity in which the tube through which the semen passes ends at the base instead of the tip of the penis, so when he ejaculates the semen spills externally. He may have a rare disorder that causes his semen to be ejaculated back into his bladder instead of out through his penis. This is called "retrograde ejaculation."

Or his wife may be afflicted with vaginismus—very painful vaginal spasms (as noted earlier) which prevent entry by the male. Or she may suffer from vaginal tumors or excessive obesity, which also preclude normal coitus. Also she may have any one or a combination of vaginal or

cervical malformations which may cause no great difficulty except in intercourse.

Some couples may be able to engage in coitus in an apparently normal fashion but, as touched on in an earlier chapter, cannot conceive because extreme viscosity, or stickiness, of the wife's vaginal or cervical fluids at the time of ovulation may prevent sperm from entering the womb. Or the male's sperm may be too few, too listless, or otherwise inadequate.

Artificial insemination with semen from an anonymous donor is ordinarily performed when examination of the husband's semen reveals that it is too poor to cause pregnancy. This I believe accounts for 95 percent of the cases of AID. There are also genetic reasons for employing donor insemination. In one instance I recall, the couple was fertile but had produced three successive infants with gross congenital deformities. Fortunately, the hereditary cause was on the male side, and the use of AID resulted in subsequent normal offspring.

Sometimes donor insemination is used to prevent development of a so-called "yellow-baby"—resulting from the incompatibility of parental blood factors when the wife's blood is Rh negative and the husband's is Rh positive. Rh is a form of protein found in the blood of many persons. Ordinarily, Rh incompatibility does not occur even when the Rh of the husband and wife are different. Or if an Rh problem does occur usually it is not serious. The truly serious cases result in all babies born to the couple being stillborn. To forestall such grave prospects, artificial insemination (AID) from an Rh negative donor may be appropriate.

### *Medical Procedure*

The medical procedure is essentially the same for AIH and AID. The semen specimen is usually obtained from the husband or donor by masturbation. The semen may be transported to the physician's office without concern about the surrounding temperature. Insemination should be completed by the physician within a few hours after the specimen has been ejaculated.

Of course the timing of insemination is crucial: it must be carried out at around the time of ovulation to achieve its purpose. Some physicians attempt artificial insemination on a patient only once each menstrual cycle—aiming as close to the day of ovulation as possible. In my own practice, in the years when I treated many AID cases, I carried out three attempts each cycle. The first month, I inseminated three days before the calculated ovulation date, then one day before it and one day after. If pregnancy did not result the first month I subtracted one day from the three-course schedule. If failure persisted the second month, I added one day to the first month's timetable.

There may be a normal reluctance on the part of some patients to undergo the insemination procedure, but it is usually counterbalanced by the excited hope of finally achieving pregnancy—after protracted infertility treatment has led them to AI as a last resort. The office staff and physician treat the patient as if she were there for the most routine gynecologic consultation. No special preparations on her part are necessary. She and her husband

may or may not have had intercourse just previously, as they wish. Some physicians insist on special antiseptic precautions but I have found ordinary medical cleanliness quite adequate. Meanwhile the semen sample has been delivered. If the treatment is to be AID, the semen will have been brought to the office before the recipient woman arrives, or I have picked it up myself. A chance meeting between the donor and the patient would of course be very unfortunate.

With the patient lying on the examining table, the physician, attended by a nurse, exposes the cervix by inserting a speculum into the vagina. The doctor draws the whole semen specimen from its container up into the barrel of a glass syringe through a blunt needle attached to it. He then introduces the blunt needle (canula) into the spread vagina and spurts the semen at the cervical opening in three or four spurts. The speculum is partially removed and the patient is instructed to lie quietly on her back for twenty minutes. The examining table is tipped a little so her hips are raised slightly. After the speculum is fully withdrawn and the patient leaves the office, she may proceed with normal activities.

There are variations in the technique described, dictated by medical conditions or the preference of the physician. One variation involves the use of a small plastic cup, or cap, the size and shape of the cervix. The semen is placed in the cup, which is then placed over the cervix and left there for twenty-four hours.

### *AI with Husband's Semen*

When the obstacle to impregnation is an insufficient number of active sperm in the husband's semen, and this condition does not respond to therapy, some infertility specialists employ the "split ejaculate" technique in a further effort to assist conception. The typical ejaculation occurs in several spurts, and research has shown that the greatest concentration of sperm—up to 75 percent—is in the first one-fourth of the ejaculate. If this first portion is retrieved separately and injected by syringe at the mouth of the cervix, the chances of conception may be enhanced. I have had little success with this technique but other practitioners report greater effectiveness.

If conception is precluded by retrograde ejaculation, another procedure may be utilized. The husband's bladder is emptied thoroughly and irrigated through a catheter, or slender metal tube, using a mild salt solution. Orgasm is induced by masturbation and the bladder is immediately emptied again by voiding to recover the semen. The ejaculate thus obtained is promptly injected into the wife's vagina. Because of the rarity of the disorder, this procedure is seldom used but success has been reported in several cases.

Two other developments, in the medical processing of semen for AIH, are of special interest. The first is a technique for spinning semen in a centrifuge to separate the sperm from the seminal fluid, in much the way a dairy separator divides whole milk into skimmed milk and cream. Medical researchers found that the motility, or

athletic vigor, of sperm may be affected by variations in the quality of the fluid. The "swimming ability" of normal sperm cells may be critically handicapped, for example, if the fluid is too gelatinous. In such cases the husband's sperm may be separated and replaced in seminal fluid from another man, which has been spun free of spermatozoa. This technique may substantially improve the probability of conception.

The second technique is the freezing of semen to permit a higher concentration of sperm. This depends on the remarkable fact that the quick, deep freezing of semen does not damage the spermatozoa; when they are thawed days or weeks later, they wiggle about as briskly as before. The freezing of semen tempts the imagination strongly—consider, for example, the theoretical prospect of storing the frozen semen of great men for centuries to preserve intact their hereditary gift for the enrichment of some future generation. Though intriguing, I find this notion distasteful; to me AI must never be an impersonal procedure, but rather the intimate application of a physician's medical skill to benefit a particular married couple. Currently, the semen-freezing technique is sometimes used with cases in which the husband's sperm count is too low to accomplish conception. Several semen samples are taken from the husband by the split ejaculate technique over a period of about a week; as each ejaculate is acquired, only the first part with the highest sperm density is kept and frozen. When three or four of these higher sperm count specimens are accumulated, they are thawed, mixed together, and injected vaginally in the usual AI manner. This technique is still experimental, but promising.

AIH is sometimes used to overcome the sperm-blocking effect of thick cervical mucus, as I noted, when this condition does not respond to other treatment. In such cases the semen is injected directly through the opening of the cervix into the womb, thus by-passing the thick mucus. This is a simple but delicate procedure, because if more than a tiny drop or two of semen reaches the womb, the latter will painfully contract and expel it. The womb is hospitable to sperm but not to semen. In the normal course of fertilization following intercourse, the seminal fluid does not enter the womb; the sperm swim free of it and begin their quest for the ovum by moving through the thinner liquid in the cervical canal.

In my experience, AIH is most often successful when the husband's semen and the wife's internal reproductive organs are wholly normal, but complete sexual intercourse is prevented by one of the reasons given earlier. It is not nearly so successful when the husband's sperm is subnormal, or there is some abnormality of the wife's cervix. A medical professor of mine summed up his pessimism about achieving pregnancy through AIH like this: "If she could have, she would have." Of course that was many years ago; since then AIH has made strides toward greater success and doubtless will continue to do so.

### *AI with Donor's Semen*

Artificial insemination using the semen of a donor carries both greater promise of success and weightier problems than AIH. The promise of AID can be formulated simply: As I noted earlier, nearly half of reported infer-



tility cases are caused by defects in the male. Among these cases, the most common deficiencies are found in the sperm or semen. Therefore, if semen from a fertile male can be substituted, a high rate of impregnation may be expected. Clinical statistics show that donor insemination is successful in about seven cases out of ten.

When the wife is fertile, either naturally or after therapy, but the husband is irreparably sterile, the couple must confront certain choices: They can reconcile themselves to a childless marriage. They can divorce so the wife may seek a fertile mate. They can adopt children. Or they can ask an infertility specialist for AID. It is not unthinkable, but I dare say most unusual, for American couples to divorce because of infertility. And in many instances, donor insemination may be more desirable than adoption. The American Society for the Study of Sterility has noted that AID "provides the opportunity for the husband to share the months of his wife's pregnancy and her childbirth." An expectant AID father paces the hospital waiting room while his wife is in labor the same as any other man—and shares the same joy and relief when notified of delivery.

AID has further advantages over adoption. The latter may be a terribly tedious and frustrating project—sometimes requiring years, since available babies are usually "in short supply." Most donor inseminations are achieved within three months. And in AID, the heredity of the infant can be more carefully studied and controlled. Sometimes little is known about the genetic characteristics of the father of the child available for adoption; the unwed mother may not have known her lover very long or very well.

In the process of deciding whether or not to attempt AID, the husband and wife must pause and reflect seriously on the strengths and weaknesses of their marriage. They must evaluate as objectively as possible their emotional capacity to accept such an unusual procedure. Transplanting eye tissue from one person to create new sight in another is certainly more intricate medically than AID. But using semen from an unrelated donor to create new life in the recipient womb is much more complicated psychologically.

Further comparison with adoption may be useful: Adoptive parents normally accept their new child completely as their beloved "own," despite its origin in the coital linkage of some other couple—usually wholly unknown to them. Through AID, a child is produced with one natural parent, at least, within the wedded union. Logically and psychologically this may often seem preferable to adoption. Yet in rare AID cases, the husband (or wife) may never quite dispel the gnawing notion that the donor's sperm was some kind of invader. This is nonsense, to be sure, but that makes it no less traumatic. The old question of virility versus sterility also may present itself, as previously discussed. The infertile husband must truly accept the fact that his failure to impregnate is in no way related to his masculinity or sexual skill. Fortunately, couples who have gone through the obstacle course of infertility diagnosis and treatment, to arrive finally at the prospect of AID, are usually strong enough in their wedded relationship so that such emotional bugaboos do not arise.

Having mentioned these occasional pitfalls, I must add that it is quite possible to dwell on them unduly; anybody

can worry themselves into a quandary of doubt and indecision if they try hard enough. The physician can often help the couple think the whole thing through carefully without losing perspective. It is the physician's first responsibility to weigh all the pros and cons of the individual case, and decide from his own medical experience whether AID should be employed. If he does not think it advisable for a particular couple, he should refuse to perform it for them and tell them why. In my own practice, I always leaned over backward not to *push* AID. If either the husband or wife was lukewarm about it, I rejected the idea completely. Sometimes I even argued against it when the subject first came up, just to test the couple's conviction and the depth of their desire to proceed.

If the couple decides definitely to attempt AID, and their physician concurs in this decision, the doctor then selects a donor. This is his second great responsibility in this form of therapy. Whenever possible, I used a medical student or a young physician. I discussed the role of the donor with him and thoroughly studied his medical and eugenic family history. My preference is for a married donor with children—to provide tangible evidence of his fertility and the quality of his offspring. In addition, of course, the physician checks the prospective donor's sperm count and other semen characteristics to be sure they are satisfactory. His Rh blood factor is compared with that of the woman to be impregnated, to determine its suitability. And the donor must be free of venereal diseases which could be transmitted through his semen. The doctor also seeks a donor whose general physical characteristics—height, build, complexion, hair and eye color, and so on—generally match those of the infertile husband.

Each semen specimen for AID is purchased from the donor on a completely impersonal basis; the fee charged may vary from about \$15 to \$30 per specimen.

Some physicians add a few drops of the husband's infertile semen to the donor specimen before injecting it. The main object of this is to offer the husband a psychological lift with the theoretical possibility that one of his own sperm may be the one to fertilize the ovum. I see nothing seriously wrong with this practice, but it strikes me as rather childish: if the couple needs this kind of subterfuge as a morale booster, then perhaps they are not mature enough for AID to be advisable.

I also have a prejudice against the sometimes professed need for the couple to sign consent forms, primarily as legal protection for the physician. If the patients are carefully selected and encouraged to consider all aspects of the matter before making a final decision to employ donor insemination, such records seem to me unnecessary, and their mere existence can become a permanent reminder of the unusual circumstance of conception. Once an AID procedure has been accomplished, I advise the couple to forget the whole business. Ideally, by the time the infant is delivered, the husband, the wife, and the doctor are no longer concerned that donor impregnation was involved.

*Artificial Insemination: Religious  
and Legal Status*

THE MEDICAL SIDE of artificial insemination has its complexities, to be sure, but they are of diamond clarity compared with some of the religious views on the subject or its largely unplumbed legal depths. In this chapter, I shall confront the religious aspect first.

It is fairly accurate to say that most Jewish and Protestant denominations in the United States generally approve or condone the procedure, while the Roman Catholic Church opposes it. But such a broad generalization is surely inadequate to guide prospective users of this technique for whom their church's doctrine may be a decisive factor. And there are distinctions in some religious beliefs between use of the husband's or a donor's semen as the fertilizing agent.

In the early sixteenth century, I have read, Catherine de Medici, after ten years of barren marriage, sought the advice of her uncle, Pope Clement VII. He is supposed to have told her, "A girl of spirit will never lack children." (She later had several.) If the Pope ever said such a thing, presumably he referred to intercourse outside of wedlock in order to achieve pregnancy. Had AID been known in those days, I should think Clement's supposed liberalism would have covered that also. Since the end of the nineteenth century, however, official Catholic condemnation

of artificial insemination has been stated and reiterated in various ways.

Pope Leo XIII in 1897 decreed the practice to be illicit. Pope Pius XII made three pronouncements about it, the first in 1949 when he spoke before the Fourth International Congress of Catholic Doctors. First he referred to the responsibilities of parenthood. "But," he continued, "between the lawful husband and the child who is the fruit of an active element derived from a third party (even should the husband consent) there is no link of origin, no moral and juridical bond of conjugal procreation."

In 1951, addressing a gathering of Catholic midwives, he referred to his earlier allocution by saying, "We formally excluded artificial insemination from marriage." And he more clearly included AIH along with AID in his disapproval: "To reduce the cohabitation of married persons and the conjugal act to a mere organic function for the transmission of the germ of life would be to convert the domestic hearth, sanctuary of the family, into nothing more than a biological laboratory." Though his wording might possibly leave room for a fine distinction between censure and outright proscription, his statement in 1956 before the Second World Congress on Fertility and Sterility seems unequivocal: "Artificial insemination is not within the rights acquired by a couple by virtue of the marriage contract, nor is the right to its use derived from the right to offspring as a primary objective of matrimony."

The prevailing view among Catholic spokesmen is that Pius XII intended his prohibition of artificial insemination to be inclusive and absolute. However, some doubts about this have been expressed because of another statement he made in the same 1956 address quoted above. The Pope

also said: "This does not mean that one must necessarily condemn the use of certain artificial means, with the view of either facilitating the conjugal act or attaining the objective of the normal act." This would seem to offer some margin for approval of artificial insemination with the semen of the spouse. Pope John XXIII did not express himself publicly on this subject.

Among Jews, there is a broad spectrum of expressed beliefs, ranging from flat prohibition of AID by the ultra-orthodox minority to tacit approbation by the larger liberal groups. Most Orthodox spokesmen seem to agree that AIH is permissible after ten years of a childless marriage, and after other means of having children—presumably, other forms of infertility treatment—have failed. The therapeutic necessity for AIH in any case must be attested to by two physicians and approved by two rabbis.

The Orthodox view on AID strikes many laymen as paradoxical: Children born as a result of donor insemination are considered legitimate, but the practice itself is forbidden. The husband whose wife bears a donor-conceived child, with or without his permission, may sue for divorce. The wife is not considered to have sinned because where there is no guilty intent (adultery), there can be no sin.

Conservative Jewish opinion on either AIH or AID appears not to be conclusively formulated one way or another, thus affording considerable latitude for the exercise of personal moral judgment. Among Reform Jews, some authorities indicate that while study of rabbinic source literature suggests a negative conclusion about donor insemination, there does not appear to be sufficient doctrinal evidence for issuance of an official prohibition. In recent

years, there have been several opinions favorable to both donor and husband insemination expressed by leading members of the rabbinate.

Among Protestants in the United States, there are few denominational pronouncements about either form of artificial insemination. In England, a special commission of the Anglican Church appointed by the Archbishop of Canterbury issued an exhaustive report on the subject in

It summarized the arguments for and against both AID and AIH, concluding with a round denunciation of the former and not reaching any clear-cut conclusion about the latter. The Protestant Episcopal Church in the United States, however, as part of the international Anglican Communion, has made no official move to accept or reject the position of the Church of England. Perhaps the absence of a statement is tantamount to acceptance. In practice, no American Episcopal strictures are evident against either AIH or AID. The same noncommittal position appears to be true of the Lutherans and other major Protestant bodies.

The only recent declaration of national magnitude by a United States Protestant body about artificial insemination is that of the United Presbyterian Church in its comprehensive report on "Responsible Marriage and Parenthood," adopted by the denomination's 174th General Assembly in May. Concerning AIH, the report states simply, "If both partners agree, this is an acceptable aid to responsible parenthood." As for AID, the report first notes that the American Society for the Study of Sterility finds it "a completely ethical, moral, and desirable form of medical therapy." Then it deals with the question of whether use of donor insemination is adulterous: "To



discover in AID an act of adultery—though there is no coitus—is certainly to give the word a meaning that it does not have in the New Testament.” For Presbyterian couples contemplating the use of AID, the report urges “the most serious and well-informed consideration” before reaching a decision. And it suggests, but does not require, the couple’s consultation with their own minister.

I think it is safe to predict that ultimately, perhaps soon, other major Protestant denominations will follow the lead of the Presbyterians in providing their parishioners explicit and fairly broad affirmative “ground rules” for the use of artificial insemination.

### *AI and the Law*

While some church bodies have had quite a bit to say about artificial insemination, the law in the United States is almost a complete blank on the subject. There are no Federal or state laws whatsoever governing the practice. The only local ordinance in the United States bearing on it specifically is a section of the New York City sanitary code imposing regulations for checking the health and other physical qualifications of a semen donor, other than the husband.

There have been no legal problems of substance concerning AIH. But the absence of statutes dealing with artificial insemination in general has thrown the burden of resolving legal difficulties concerning AID directly on the courts. And the few cases which have come before the courts have not all reached similar conclusions, so there are only the sketchiest of judicial precedents in which to find

guidance. It is well that prospective AID couples be aware of this legal background, which at least underscores the admonition that donor insemination is not to be taken lightly by the patient or prescribed lightly by the doctor.

The brief but troubled legal history of AID especially suggests the need for couples seeking this solution of infertility to ponder the soundness and future of their marital union. Three major kinds of legal complications may arise: charges of *adultery* (directed at the mother, donor, or physician); questions of *legitimacy*; and problems of *visitation* (of the AID offspring by the husband following divorce).

In six states, legislative bills have been introduced dealing specifically with artificial insemination. But none of these bills has been enacted into law. In Minnesota and Ohio (in        and        respectively), the bills were unfavorable and aimed at stigmatizing donor insemination as unlawful, the child illegitimate, and the parties to the act subject to fine and imprisonment. In New York, Virginia, Wisconsin, and Indiana (between        ), the bills were favorable, with the objectives of legalizing the procedure, legitimizing the offspring, and assuring their full rights of inheritance.

Modern court history involving AID began with the case of *Orford vs. Orford* in Canada, in 1921. The wife attempted through the court to obtain alimony from her divorced husband. His defense was that she had committed adultery. She admitted having a child of which her former husband had not been the biologic father, but claimed that it was the result of donor insemination. The court denied her contention, showing its disbelief that the infant had been conceived artificially. The court then went

on to comment *in dicta*—that is, in a manner not intended to be binding in other cases—that even if AID had been employed, its use without the husband's consent would have constituted moral turpitude and adultery. In England, in 1924, a court ruled that the conception of a child by a man other than the husband constituted adultery and the resulting offspring was therefore illegitimate. In Italy, in 1924, a court issued a similar ruling.

While the Orford case was “closest to home,” so to speak, for us here in the United States, its decision was based on antiquated Ecclesiastical Law not recognized in this country. Therefore it lacks value in suggesting even the most informal kind of precedent between nations sharing the broad heritage of English common law. Also it involved the husband's nonconsent, a circumstance which excludes it from the domain of ethical medical practice.

Most court actions in the United States concerning AID turned out quite differently from the foreign cases cited. The first two relevant cases in this country did not occur until 1948. In the Illinois case of *Hoch vs. Hoch*, Judge Michael Fineberg granted a divorce on grounds of adultery performed in the usual manner. He added *in dicta* that the use of AID was not sufficient grounds to support a charge of adultery or a consequent plea for divorce.

At about the same time, the case of *Strnad vs. Strnad* occurred in New York. The issue was whether the husband of a woman who bore an AID child with the husband's consent might legally visit the child after the couple had separated. The court granted a Decree of Separation to the wife but upheld the husband's rights of visitation. Judge Henry Greenberg ruled that the husband was “entitled to the same rights as those acquired by a foster

parent who has formally adopted a child, if not the same rights to which a natural parent under the circumstances would be permitted." The judge also said that the child was legitimate, assuming AID had been performed with the husband's consent.

The Strnad case ruling was rendered by a lower court and so is also lacking strength to establish precedents of great value in future cases. Yet both the Strnad and Hoch cases appeared to establish a favorable legal climate for AID in the United States. This climate was further enhanced by the case of *Ohlson vs. Ohlson* in Chicago. The couple had separated and Mrs. Ohlson challenged the right of her husband to visit their three-year-old son, born of donor sperm. Ohlson insisted he was the father but this was never legally determined. Nonetheless, Judge Elva W. Holingren upheld Ohlson's rights of visitation, ruling that "when a child is born within a marriage by whatever method there is a legal presumption that both marriage partners are its parents."

In the same year and in the same city of Chicago, occurred the case of *Doornbos vs. Doornbos*. In granting a divorce decree involving custody of an AID-conceived child and the visitation rights of the husband, Judge Gibson E. Gorman issued a ruling in a county court. He declared that donor insemination "with or without the consent of the husband is contrary to public policy and good morals and constitutes adultery on the part of the mother." The resulting child, he ruled, is therefore illegitimate. Only AIH, he concluded, is moral and "does not present any difficulty from the legal point of view."

Judge Gorman's decision received great national publicity and its negative pronouncements have been echoing

ever since simply because there have been no subsequent United States cases involving artificial insemination. But the legal status of AID as a result of this one case is far from bleak. Attorneys have pointed out that only the weakest precedent, if any, was established by Judge Gorman, since his ruling was made in a local trial court. Higher courts of appeal could simply ignore it. As one authority has said, the Doornbos case "should serve neither to discourage the practice nor instill the fear of illegitimacy into the minds of husband and wife." \*

While the clouds of legal doubt and contradiction have not yet been removed from donor insemination, the general outlook is sunny. The decisions in three out of four United States court cases have been favorable. In four out of six states where bills dealing with AID were placed before the legislature, their aim has been clearly to legitimize its results. The legal scholar S. B. Schatkin has noted, "As in all other scientific achievements, the law's response to artificial insemination has been, and will be, perfect horror; skepticism; curiosity; and then acceptance." †

### *A Note on Acceptance*

What is the impact of these religious and legal views on medical and public attitudes? Perhaps the most important fact is that roughly a hundred new babies a week—or more—are born in the United States as a result of

donor artificial insemination. This is a tiny fraction compared with all births, of course, but the incidence of need for AID is small also.

To date, the only poll of medical opinion is the one I helped conduct in        for the American Society for the Study of Sterility, among its own members. Eighty-nine physicians who specialize in infertility work were queried and seventy-one replied. They were asked, "Do you favor artificial insemination from a foreign donor—or do you oppose it?" Fifty-two approved, twelve were opposed, and seven responded equivocally. Most of the negative responses were based on religious or legal reasons, or a combination of the two. The ratio of approval to disapproval for any reason was better than four to one.

As for the attitude of the general public, no adequate statistics have been gathered. Dr. Arthur A. Levisohn of Chicago, in       , polled a random sample of 200 women. Eighty-two replied, most of them married mothers living with their husbands. Seventy-two approved artificial insemination generally; fifty-three preferred it to adoption. Sixty-one approved AID as such; forty-eight said they, personally, would resort to it if their husbands were sterile.

If complete national statistics were gathered, I'd wager that the highest approval ratio would be among the wives and husbands who have applied artificial insemination to the creation of their own families. To my knowledge, virtually all of my patients who succeeded in bearing children because of AI have no sincere regret for having done so. And some of the happiest parents among them are the ones to whom success came the hardest. One patient of mine persisted with AID for twenty-one successive months before she conceived. Generally I advise that attempts to

conceive artificially be temporarily discontinued after three months if impregnation has not occurred. But she pleaded that we not skip even a month. Finally, she was rewarded with a perfect baby boy and later a girl, curiously enough conceived the first month.

Sometimes I encounter, socially or professionally, a lovely child or a young man or woman who is the result of artificial insemination I administered years ago. I know the joyful secret of that person's genesis. A feeling flashes over me of humility and gladness. And gratitude for the opportunity I had to help.

*Postscript*

CONTRACEPTION and the treatment of infertility are often described, as I've mentioned, as two sides of the same coin: Medically, they are opposite but closely related aspects of fertility control. Not long ago, a patient came to my office who represents both sides of the coin. Her medical history affords an apt postscript to this book.

The young lady used to be one of my favorite infertility patients. She is a pretty and vivacious woman, no less so than when she and her husband first sought my help five years ago. They had been married several years without producing a child. Six months after their treatment began, we didn't seem to be getting anywhere. We had tried almost everything on both of them—and that means that their treatment had been tedious, troublesome, uncomfortable, and sometimes slightly painful. More months passed and both of them were ready to give up in disgust—with themselves and me. "Let's try a few things again," I said, "and a couple of new approaches." They were game. So again the young husband appeared at the appointed hour with a small bottle of semen as instructed, and his wife endured the indignity of a quick cab ride across the city at nine in the morning for a postcoital test. We calculated her ovulation time as carefully as possible, and the couple had intercourse during the presumed ovulatory period. Finally, at long last, the treatment worked.

After it was all over, I visited the new mother in the



obstetrical ward. Their firstborn was a boy—eight pounds, three ounces. “Well,” she said, “I guess we got the first olive out of the bottle.” And she was right: Now they have three—boys, that is. The last two required no help from me. She came to me recently for her postpartum checkup following the birth of her third. Her new problem was this: She wanted me to prescribe for her “some kind of birth control that really works.”

That was not difficult to take care of. But she has another problem, too, she confessed. Some day she wants another baby, in two or three years. *And she wants a girl!* On that medical science cannot help her—at least not yet.

## APPENDIX A

### *Planned Parenthood Centers in the United States*

THE following committees are affiliated with the Planned Parenthood Federation of America and provide services or referral for contraception, infertility treatment, and marriage education. These centers follow a policy of helping meet the cost of service for patients who cannot afford it.

#### *Alabama*

##### BIRMINGHAM

Planned Parenthood League of Alabama  
702 Public Health Building  
1912 Eighth Avenue, South

##### HUNTSVILLE

Planned Parenthood of Madison County  
Write to: Mrs. Edward Falkowski  
2206 Governor's Drive, S.E.

#### *Arizona*

##### PHOENIX

Planned Parenthood Association of Phoenix  
Memorial Hospital  
1200 South Fifth Avenue

**TUCSON**

Planned Parenthood Clinic of Tucson  
55 East Jackson Street

***California***

**LOS ANGELES**

Planned Parenthood Centers of Los Angeles  
2960 West Eighth Street

**OAKLAND**

Planned Parenthood League of Alameda County  
482 West MacArthur Boulevard

**PASADENA**

Pasadena Planned Parenthood Committee  
1200 North Lake Avenue

**SAN FRANCISCO**

Planned Parenthood Association of San Francisco  
2340 Clay Street

**SAN RAPHAEL**

Planned Parenthood Association of Marin County  
18 Mary Street

***Colorado***

**DENVER**

Denver Chapter of Planned Parenthood  
2025 York Street

*Connecticut*

NEW HAVEN

Planned Parenthood League of Connecticut  
406 Orange Street

*Delaware*

WILMINGTON

Delaware League for Planned Parenthood  
110 East 16 Street

*District of Columbia*

WASHINGTON

Planned Parenthood of Metropolitan Washington, D.C.  
1109 M Street, N.W.

*Florida*

CLEARWATER

Planned Parenthood Educational Committee of  
Pinellas County  
Write to: Mrs. A. J. Brambaugh  
330 Mehlenbacher Road

*Illinois*

CHAMPAIGN

Planned Parenthood Association of Champaign County  
505 South Fifth Street

CHICAGO

Planned Parenthood Association—Chicago Area  
203 North Wabash Avenue

**SPRINGFIELD**

Planned Parenthood Association of Springfield  
P. O. Box 993

*Indiana*

**EVANSVILLE**

Planned Parenthood of Evansville  
205 Mulberry Street

**INDIANAPOLIS**

Planned Parenthood Association of Indianapolis  
Room 108, 615 North Alabama Street

*Iowa*

**DES MOINES**

Planned Parenthood Committee of Des Moines  
696 Eighteenth Street

**SIOUX CITY**

Planned Parenthood Committee of Sioux City  
Y.W.C.A. Building 619 Sixth Street

*Kansas*

*See* MISSOURI

*Kentucky*

**BEREA**

The Mountain Maternal Health League  
3 Prospect Street

LEXINGTON

The Planned Parenthood Center of Lexington  
Good Samaritan Hospital

LOUISVILLE

Family Relations Center  
614 Preston Street

Requests for information on communities in Kentucky other than the cities listed above should be addressed to:

Mrs. Charles Tachau  
1701 Lynn Way  
Louisville

*Maryland*

BALTIMORE

Planned Parenthood Association of Baltimore  
Hooker Memorial Building  
352 East 25 Street

*Massachusetts*

BOSTON

Planned Parenthood League of Massachusetts  
229 Berkeley Street

*Michigan*

ANN ARBOR

Washtenaw County Chapter for Planned Parenthood  
201 East Liberty Street

**DETROIT**

Planned Parenthood League, Inc.  
The Professional Building  
10 Peterboro Avenue

For information on other Michigan communities address:

Planned Parenthood League, Inc.  
The Professional Building  
10 Peterboro Avenue  
Detroit

***Minnesota***

**MINNEAPOLIS**

Planned Parenthood of Minneapolis  
223 Walker Building  
803 Hennepin Avenue

**ST. PAUL**

Planned Parenthood of St. Paul  
342 Hamm Building

***Missouri***

**KANSAS CITY**

Planned Parenthood Association of Kansas City  
3222½ Troost Avenue

**ST. LOUIS**

Planned Parenthood Association of St. Louis  
4947 Delmar Boulevard

For information on other communities in Kansas and Missouri address:

Mrs. John McKamey Bruce  
2101 West 67 Street  
Shawnee Mission, Kansas

*Nebraska*

OMAHA

Planned Parenthood Committee of Nebraska  
Y.W.C.A. Building  
506 South 17 Street

*New Jersey*

ASBURY PARK

Planned Parenthood of Monmouth County  
913 Sewell Avenue

CAMDEN

Planned Parenthood League of Southern New Jersey  
544 Stevens Street

HACKENSACK

Bergen County Planned Parenthood Center  
59 Essex Street

MERCER AREA (Princeton and Trenton)

Planned Parenthood Association of Mercer Area  
202 Academy Street  
Trenton

MORRISTOWN

Planned Parenthood Center of Morris Area  
11 Washington Street



**NEWARK**

Essex County Committee for Planned Parenthood  
47 Lincoln Park

**PATERSON**

Passaic County Planned Parenthood Center  
95 Bridge Street

**PLAINFIELD**

Plainfield League for Planned Parenthood  
234 Park Avenue

**WESTFIELD**

Planned Parenthood Committee of Westfield  
234 Park Avenue  
Plainfield

*New Mexico*

**LAS CRUCES**

Santa Ana County Planned Parenthood Association  
121 West Griggs

*New York*

**ALBANY**

Planned Parenthood Association of Albany  
20 Trinity Place

**BABYLON**

Planned Parenthood of South Suffolk  
184 Deer Park Avenue

**BINGHAMTON**

Broome County Planned Parenthood  
140 State Street

**BROOKLYN**

Planned Parenthood Committee of Brooklyn  
Tower C, 44 Court Street

**BUFFALO**

Planned Parenthood Center of Buffalo  
Room 250, 319 Main Street

**FAR ROCKAWAY**

South Shore Planned Parenthood Committee  
19-20 Mott Avenue

**HUNTINGTON**

North Suffolk Planned Parenthood Center  
48 Elm Street

**JAMAICA**

Planned Parenthood Committee of Queens  
88-35 164 Street

**MINEOLA**

Planned Parenthood of Nassau County  
70 Third Avenue

**MOUNT KISCO**

Planned Parenthood of Northern Westchester  
359 Main Street

**MOUNT VERNON**

Planned Parenthood of Southern Westchester  
18 South Second Street

**NEWBURGH**

Planned Parenthood Center of Orange County  
74 Ann Street

**NEW YORK CITY**

Planned Parenthood of Manhattan and The Bronx  
515 Madison Avenue

Margaret Sanger Research Bureau  
17 West 16 Street

**NIAGARA FALLS**

Niagara Association for Planned Parenthood  
406 M & T Building  
44 Falls Street

**PORT CHESTER**

Planned Parenthood Center of Eastern Westchester  
225 Westchester Avenue

**POUGHKEEPSIE**

Planned Parenthood League of Dutchess County  
54 Noxon Street

**ROCHESTER**

Planned Parenthood League of Rochester and Monroe  
County  
38 Windsor Street

## SCHENECTADY

Planned Parenthood League of Schenectady County  
785½ State Street

## SYRACUSE

Planned Parenthood Center of Syracuse  
618 South Crouse Avenue

## YONKERS

Hudson River Committee for Planned Parenthood  
40 Warburton Avenue

*North Dakota*

## FARGO

Planned Parenthood Committee  
City Health Department  
City Hall

*Ohio*

## CINCINNATI

Planned Parenthood Association of Cincinnati  
707 Transportation Building  
307 East Fourth Street

## CLEVELAND

Maternal Health Association of Cleveland  
2027 Cornell Road

## COLUMBUS

Planned Parenthood Association of Columbus  
208 East State Street

**HAMILTON**

Planned Parenthood Center of Butler County  
First Methodist Church  
225 Ludlow Street

**SPRINGFIELD**

The Planned Parenthood Center  
10½ West Columbia Street

**TOLEDO**

Planned Parenthood League of Toledo  
217 15 Street

**YOUNGSTOWN**

Planned Parenthood Association of Youngstown  
212 Bus Arcade

For information on other Ohio communities address:

Mrs. Richard B. Wills  
4121 Oak Knoll Drive  
Youngstown

***Oklahoma***

**MUSKOGEE**

Write to: Mrs. Ernest R. Anthis  
Cherry Knoll, Route 1

**OKLAHOMA CITY**

Planned Parenthood Center  
829 North East 11 Street

**TULSA**

Planned Parenthood Association of Tulsa  
1615 East 12 Street

*Pennsylvania*

**EASTON**

Planned Parenthood Center  
256 Bushkill Street

**EAST STROUDSBURG**

Monroe County Planned Parenthood Association  
P. O. Box 7

**LANCASTER**

Lancaster County Committee for Planned Parenthood  
Health and Welfare Center  
630 Janet Avenue

**PHILADELPHIA**

Planned Parenthood Association of Philadelphia  
2004 Walnut Street

**PITTSBURGH**

Planned Parenthood Committee of Pittsburgh  
108 Smithfield Street

**READING**

Planned Parenthood Center of Berks County  
48 South Fourth Street

**SCRANTON**

Planned Parenthood Organization of Lackawanna County  
220-223 Scranton Real Estate Building  
316 North Washington Avenue

**WILKES-BARRE**

Planned Parenthood Association of Luzerne County  
Kirby Memorial Health Center

**YORK**

Planned Parenthood Committee of York County  
120 South Duke Street

***Rhode Island***

**PROVIDENCE**

Rhode Island Maternal Health Association  
433 Westminster Street

***South Carolina***

**CAMDEN**

Planned Parenthood of Kershaw County  
P. O. Box 312

**COLUMBIA**

Planned Parenthood of Richland and Lexington Counties  
3506 Monroe Street

***Tennessee***

**OAK RIDGE**

Planned Parenthood of the Southern Mountains  
P. O. Box 288

*Texas***AUSTIN**

Planned Parenthood Center of Austin  
1300 Sabine Street

**BEAUMONT**

Planned Parenthood Association of Beaumont  
Write to: Mrs. Albert Klein  
2620 Long

**CORPUS CHRISTI**

South Texas Planned Parenthood Center  
2254 Morgan Avenue

**DALLAS**

Planned Parenthood of Dallas  
3620 Maple Avenue

**EL PASO**

Planned Parenthood Center of El Paso  
214 West Franklin Avenue

**FORT WORTH**

Planned Parenthood Center of Fort Worth  
614 West First Street

**HOUSTON**

Planned Parenthood Center of Houston  
3512 Travis Street



**SAN ANGELO**

Planned Parenthood Center of San Angelo  
122 West Second Street

**SAN ANTONIO**

Planned Parenthood Center of San Antonio  
312 North Presa

**WACO**

Planned Parenthood Center of Waco  
315 North Fourth Street

*Virginia*

**RICHMOND**

Virginia League for Planned Parenthood  
116 South Third Street

*Washington*

**SEATTLE**

Planned Parenthood Center of Seattle  
1115 Boylston Avenue

*West Virginia*

**PARKERSBURG**

Planned Parenthood Association  
Write to: Mrs. R. A. Dickison  
1000-34th Street  
Vienna

For information on other West Virginia communities address:

Mrs. J. E. Anderson  
1807 Washington Avenue  
Parkersburg

***Wisconsin***

**MILWAUKEE**

Planned Parenthood Association of Milwaukee  
1407 Wisconsin Tower Building  
606 West Wisconsin Avenue

***Family Planning Services in  
Public Health Programs***

The following states provide child spacing services through state or county Maternal Health Clinics, for those who cannot afford private physicians. If you will write to the address in your state, information will be sent you as to where this clinic service is available in your area:

**PUBLIC HEALTH DEPARTMENT ADDRESSES**

***Florida***

Director  
Bureau of Maternal and Child Health  
Florida State Board of Health  
Jacksonville

***Georgia***

Director  
Maternal and Child Health Service  
Georgia Department of Public Health  
Atlanta

***Mississippi***

Director  
Division of Maternal and Child Health  
Mississippi State Board of Health  
Jackson

*North Carolina*

Director  
Maternal and Child Health Section  
North Carolina State Board of Health  
Raleigh

*South Carolina*

Director  
Division of Maternal and Child Health  
State Board of Health of South Carolina  
Columbia

PLANNED PARENTHOOD AFFILIATES COOPERATING  
WITH PUBLIC HEALTH DEPARTMENTS

*Alabama*

Planned Parenthood League of Alabama  
702 Public Health Building  
1912 Eighth Avenue, South  
Birmingham

*Virginia*

Virginia League for Planned Parenthood  
116 South Third Street  
Richmond

## APPENDIX B

### *List of Contraceptive Products*

THE following is a somewhat expanded version of the list of birth control products published by the Medical Department of the Planned Parenthood Federation of America. These products are sold at drugstores and in drug departments of other stores. If you can't find a store which sells the brand you want, write to the manufacturer for the name of the druggist nearest you who handles the particular product.

The products are grouped according to the way they are intended to be used and are listed in the order in which the methods are discussed in the text. All have been approved by the United States Food and Drug Administration for use as contraceptives. Most products advertised for "feminine hygiene" are not manufactured for contraception.

#### *Condoms*

The brands listed below are sold at drugstores and are made by manufacturers who apparently have effective quality control procedures, since neither company has had its product seized as defective by the Food and Drug Administration for the last ten years.

<i>Sheik Rubber Prophylactics</i>	} Julius Schmid, Inc. 423 West 55th Street New York 19, N.Y.
<i>Sheik Lubricated Prophylactics</i>	
<i>Ramses Rubber Prophylactics</i>	
<i>XXXX (Fourex) Non-Slip Skin Prophylactics (premoistened)</i>	
<i>Shadow-enz Rubber Prophylactics</i>	} Youngs Rubber Corp. 393 Seventh Avenue New York 1, N.Y.
<i>Trojan-enz Rubber Prophylactics</i>	
<i>Trojan Rubber Prophylactics</i>	
<i>Guardian Latex Prophylactics (lubricated)</i>	
<i>Naturalamb Rolled Lubricated Skin Prophylactics</i>	

*Diaphragms*  
(by prescription only)

Most of the firms listed below which make vaginal jellies and creams manufacture types of diaphragms suitable for the varying needs of individual patients. Your doctor will prescribe the one best suited to you.

*Cervical Caps*  
(by prescription only)

Durex Products, Inc. 684 Broadway New York 12, N.Y.	Milex Products 5915 Northwest Highway Chicago 31, Ill.
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*Jellies and Creams*  
*for Use with Diaphragm or Cervical Cap*

All the products listed in this group—and the four groups immediately following—have been tested in the laboratory at the Margaret Sanger Research Bureau, New York City, for effectiveness against live human sperms. Products listed first are those which appeared to be

strongest in the test tube trials. Products of equal strength are bracketed together. The difference in sperm-killing ability between products close to each other on the list is not great but the difference between those at the top and those at the bottom of each list is considerable. In choosing the product that best meets your own special needs, you may wish to try several; by all means ask your doctor's advice.

<i>Creemoz Creme</i>	Larre Laboratories, Inc. P.O. Box 478 Denver 1, Col.
<i>Lactikol Jelly</i>	Durex Products, Inc. 684 Broadway New York 12, N.Y.
<i>Lorophyn Jelly</i>	Eaton Laboratories 17 Eaton Avenue Norwich, N.Y.
<i>Ortho-Gynol Jelly</i>	Ortho Pharmaceutical Corp. Raritan, N.J.
<i>Koromex Cream</i>	Holland-Rantos Co., Inc. 393 Seventh Avenue New York 1, N.Y.
<i>Ortho Creme</i>	Ortho Pharmaceutical Corp. Raritan, N.J.
<i>Koromex Jelly</i>	Holland-Rantos Co., Inc. 393 Seventh Avenue New York 1, N.Y.
<i>Lactikol Creme</i>	Durex Products, Inc. 684 Broadway New York 12, N.Y.
<i>Contra Creme</i>	Research Supplies Pine Station Albany 3, N.Y.

<i>Veritas Kreme</i>	Veritas Products Co., Inc. 30 Cordier Street Irvington, N.J.
<i>Colagyn Jelly</i>	The Smith Laboratory, Inc. 811 Wyandotte Kansas City 5, Md.
<i>Jellak Jelly</i>	Larre Laboratories P. O. Box 478 Denver 1, Colo.
<i>Kemi Cream</i>	Kemi Products Corp. Clifton, N.J.
<i>L.A.J. Jelly</i>	Tablax Co. 26 Cordier Street Irvington 11, N.J.
<i>Marvosan Jelly</i>	Tablax Co. 26 Cordier Street Irvington 11, N.J.
<i>Verithol Jelly</i>	Veritas Products Co., Inc. 30 Cordier St. Irvington, N.J.
<i>Locorol Jelly</i>	International Laboratories, Inc. Peck & Sterba Division, Inc. Rochester 14, N.Y.
<i>Natogel Jelly</i>	National Drug Distributors Mineola, N.Y.
<i>Kemi Jelly</i>	Kemi Products Corp. Clifton, N.J.
<i>Lygel Jelly</i>	Lehn & Fink Products Corp. 192 Bloomfield Avenue Bloomfield, N.J.
<i>Esta Gel</i>	Esta Medical Laboratories, Inc. 1450 Broadway New York 18, N.Y.

<i>Milex Creme</i>	Milex Products 5915 Northwest Highway Chicago 31, Ill.
<i>Bilco Jelly</i>	Tablax Co. 26 Cordier Street Irvington 11, N.J.
<i>Vagagill Jelly</i>	S. E. Messengill Co. Bristol, Tenn.
<i>Certane Cream</i>	Vogarell Products Co. Los Angeles 7, Calif.
<i>Lanteen Jelly</i>	Esta Medical Laboratories, Inc. 1450 Broadway New York 18, N.Y.
<i>Milex Crescent Jelly</i>	Milex Products 5915 Northwest Highway Chicago 31, Ill.
<i>Milex Jelly</i>	Milex Products 5915 Northwest Highway Chicago 31, Ill.
<i>Milex Jelly, Br-4</i>	Milex Products 5915 Northwest Highway Chicago 31, Ill.
<i>Ramses Jelly</i>	Julius Schmid, Inc. 423 West 55th Street New York 19, N.Y.
<i>Certane Jelly</i>	Vogarell Products Co. Los Angeles 7, Calif.
<i>Dupree Jelly</i>	Dupree Medical Co. 20 East 17th Street New York, N.Y.

### *Jellies and Creams for Use Alone*

<i>Delfen Cream</i>	Ortho Pharmaceutical Corp. Raritan, N.J.
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<i>Perceptin Gel</i>	Ortho Pharmaceutical Corp. Raritan, N.J.
<i>Immolin Cream-Jel</i>	Julius Schmid, Inc. 423 West 55th Street New York 19, N.Y.
<i>Koromex-A Jelly</i>	Holland-Rantos Co., Inc. 393 Seventh Avenue New York 1, N.Y.
<i>Cooper Creme</i>	Whittaker Laboratories, Inc. 898 Washington Street Peekskill, N.Y.
<i>Lanesta Gel</i>	Esta Medical Laboratories, Inc. 1450 Broadway New York 18, N.Y.
<i>Cooper Creme Gel</i>	Whittaker Laboratories, Inc. 898 Washington Street Peekskill, N.Y.
<i><b>Aerosol Vaginal Foam</b></i>	
<i>Emko Vaginal Foam</i>	Einko Co. 7912 Manchester Avenue St. Louis 17, Mo.
<i>Delfen Vaginal Foam</i>	Ortho Pharmaceutical Corp. Raritan, N.J.

***Vaginal Tablets***

<i>Durafoam</i>	Durex Products, Inc. 684 Broadway New York 12, N.Y.
<i>Zeptabs</i>	Larre Laboratories P.O. Box 478 Denver, Colo.

***Vaginal Suppositories***

<i>Lorophyn Suppositories</i>	Eaton Laboratories 17 Eaton Avenue Norwich, N.Y.
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**Oral Contraceptives**  
(by prescription only)

<i>Enovid</i>	G. D. Searle & Co. P.O. Box 5110 Chicago 80, Ill.
<i>Norinyl</i>	Syntex Laboratories, Inc. 701 Welch Road Palo Alto, Calif.
<i>Norlestrin</i>	Parke, Davis & Co. P.O. Box 118-C.P.O. Detroit 32, Mich.
<i>Oracon</i>	Mead Johnson Laboratories Evansville 21, Ind.
<i>Ortho-Novum</i>	Ortho Pharmaceutical Corp. Raritan, N.J.
<i>Provest</i>	The Upjohn Company Kalamazoo, Mich.

**Intrauterine Devices**

<i>Gynecoil</i>	Ortho Pharmaceutical Corp. Raritan, N.J.
<i>Lippes Loop</i>	Hohabe, Inc. 333 Henderson Avenue Buffalo 23, N.Y.
<i>Birnberg Bow</i>	Marco & Son 4 Kenneth Avenue Old Bridge, N.J.
<i>Hall-Stone Stainless Steel Ring</i>	Glaxo-Allenbury's Canada, Ltd. 52 Barton Road Weston, Ontario, Canada

**Rhythm Method**

Basal body thermometers, used in calculating ovulation time, may be obtained at most drugstores. Basal temperature charts for recording daily thermometer readings can

be purchased from drugstores or from the Planned Parenthood Federation of America, 515 Madison Avenue, New York, N.Y. 10022.

*Vaginal Sponge*

<i>Durafoam Liquid with Sponge</i>	Durex Products, Inc. 684 Broadway New York 12, N.Y.
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<i>Durex Foam Powder with Sponge</i>	Durex Products, Inc. 684 Broadway New York 12, N.Y.
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## APPENDIX C

### *For Further Reading*

READERS who would like to learn more about family planning and marital harmony may choose from a wide variety of excellent books. Among those which I recommend to patients are the following:

BUTTERFIELD, OLIVER M., *Sexual Harmony in Marriage*. Emerson Books. \$.50. A clear and sensible discussion of sexual relations in marriage.

DUVALL, EVELYN MILLS, *Facts of Life and Love for Teenagers*. Popular Library. \$.35. A useful introduction, designed for teenagers, but of interest to their parents as well.

FAGLEY, RICHARD, *The Population Explosion and Christian Responsibility*. Oxford University Press. \$4.25. A comprehensive survey of religious attitudes toward fertility control in the context of a concerned discussion of the population problem.

*In Holy Matrimony, The Marriage Manual of the Methodist Church*. The Methodist Publishing House. \$.90. Written for engaged couples of the Methodist faith, this little volume is designed for use when conferring with the pastor in preparation for marriage.

KELLY, REV. GEORGE A., *The Catholic Marriage Manual*. Random House. \$4.95. Written for Catholics, this is a complete and authoritative book on the teachings on marriage of the Roman Catholic Church. Its author is Director of the Family Life Bureau of the Archdiocese of New York.

STONE, HANNAH, M.D., and STONE, ABRAHAM, M.D., *A Marriage Manual*. Simon & Schuster. \$3.95. Written by two of the great Planned Parenthood pioneers, this is a—perhaps *the*—standard guidebook to sex and marriage.

## *Family Planning Agencies Around the World*

THE following list of family planning agencies is published by the International Planned Parenthood Federation. Organizations listed operate birth control clinics, often with government support, or refer patients to cooperating doctors and clinics. For information on availability of contraceptive service in unlisted countries, readers are advised to write IPPF at 64 Sloane Street, London, S.W.1. Organizations marked with an asterisk are members of the IPPF, which links national family planning organizations in thirty-two countries.

### AFRICA

#### *Ghana*

Bibiani Family Planning  
Association  
P.O. Box 23  
Bibiani

#### *Kenya*

Family Planning Association\*  
P.O. Box 637  
Kitale

Family Planning Association\*  
P.O. Box 195  
Mombasa

Family Planning Association  
of Kenya\*  
P.O. Box 30108  
Nairobi

***Liberia***

**Family Planning Association  
of Liberia  
c/o Department of Public  
Education  
UNESCO Office  
Monrovia**

***Mauritius***

**General Secretary  
Family Welfare Association  
of Mauritius\*  
Piton**

***Nigeria***

**Marital Health Clinic  
c/o The Public Health  
Department  
Lagos**

**Medical Officer-in-Charge  
S.U.M. Hospital  
P. O. Vom via Jos**

***Rhodesia, Northern***

**Family Welfare Association  
Private Bag 3  
Ridgeway  
Lusaka**

***Rhodesia, Southern***

**Bulawayo Family Planning  
Association  
P.O. Box 1777  
Bulawayo**

**Salisbury Family Planning  
Association  
404 Lister Buildings  
Stanley Road  
Salisbury**

*Sierra Leone*

Family Planning Association  
1 Alfred Street  
Cline Town  
Freetown

*South Africa, Union of*

South African National  
Council for Maternal and  
Family Welfare\*  
14 Young Road  
Mill Park  
Port Elizabeth  
Cape Province

*Tanganyika*

Family Planning Association  
of Dar-es-Salaam  
P.O. Box 1372  
Dar-es-Salaam

*Uganda*

Family Planning Committee  
P.O. Box 328  
Kampala

*United Arab Republic: Egypt*

Egyptian Association for  
Population Studies\*  
5 Soliman Tasha Street  
Cairo

**NORTH AMERICA**

*Barbados*

Barbados Family Planning  
Association\*  
Enmore Health Centre  
St. Michael

*Bermuda*

Director of Health Services  
Medical and Health  
Department\*  
Hamilton

*Canada*

Canadian Federation of Societies  
for Population Planning\*  
159 Forest Hill Road  
Toronto 7, Ontario

Hamilton Planned Parenthood  
Society  
80½ James Street North  
Hamilton

Parents Information Bureau  
Ltd. •  
410 King Street, W.,  
Kitchener

Family Planning Association  
of Winnipeg  
232 Home Street  
Winnipeg

*Jamaica*

Jamaica Family Planning  
Association\*  
7 Caledonia Avenue  
Kingston 5

Marriage Guidance Clinic  
Obstetrics and Gynaecology  
Department  
University College of the  
West Indies  
Mona, St. Andrew



*Leeward Islands:*

*St. Kitts-Nevis  
(and Anguilla)*

Dr. E. O. Jacobs  
c/o Health Centre  
Basseterre  
St. Kitts

*Puerto Rico*

Family Planning Association  
of Puerto Rico\*  
De Diego 150  
Rio Piedras

*Trinidad (and Tobago)*

Family Planning Association  
of Trinidad and Tobago\*  
P.O. Box 158  
Port-of-Spain

*United States*

Planned Parenthood Federation  
of America, Inc.—World  
Population Emergency  
Campaign\*  
515 Madison Avenue  
New York 22, N.Y.

ASIA

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## *Index*

### **A**

**Abortions, 180-209**  
  defined, 181  
  ideal time for, 186  
  illegal, 204-9  
    fees for, 187, 207  
    procedures, 183, 184  
    referral by legitimate doctors, 206  
    safety of, 207  
    self-inflicted, 208  
  legal (therapeutic), 187-204  
    difficult to obtain, 189-94  
    eugenic indications, 193-97  
    fees for, 186-87  
    how to apply for, 202-4  
    malignant indications, 193, 198  
    number of, 181, 190, 192-93  
    psychiatric indications, 193-94, 199  
    rape, 197-98, 199-200  
    safety of, 185-86  
    state laws, 189-90, 199-200, 203  
**Aerosol vaginal foam, see Vaginal foam**  
**Alabama, abortion in, 189**  
**Antibiotics in treatment of infertility, 247, 248**  
**Applicator for jelly or cream, 58-60**

**Artificial insemination (AI), 251-75**  
  acceptance of, 251, 273-75  
  defined, 251  
  with donor's semen (AID), 251-52  
    anonymity of donor, 257  
    consent form, 264  
    fee for, 263  
    legality of, 269-73  
    mixed with husband's semen, 263-64  
    reasons for, 254-55, 260-63  
    selection of donor, 263  
  with husband's semen (AIH), 251-52  
    reasons for, 255, 258-60  
  medical procedure for 256-60  
  religious status of, 265-69

### **B**

**Baptist Convention, American, 138**  
**Basal body temperature (BBT) thermometer, 83-84, 238, 302**  
**Bidet, 89**  
**Biopsies**  
  endometrial, 238-39  
  testicular, 232-33

## Birth control

- choosing a method, 93-105
  - guidelines, 94-95
  - relative effectiveness of methods, 96-98
  - time factors, 101-2
- defined, 6-7
- extent of practice of, 4-9
- failures of, 106-14
  - ignorance, 109, 111
  - irregularity, 110-11, 113-14
  - lack of cooperation between husband and wife, 110, 112-14
  - major cause of, 104-5
  - medical profession's contribution to, 107-8
- family size and, 9
- methods of, 38-92
  - extent of use of various methods, 6-9
  - list of products, 296-302
- See also* Cervical caps; Condoms; Diaphragms; Douches; Jellies or creams; "Pills"; Rhythm method; Ring; Vaginal foam; Vaginal sponges; Vaginal suppositories; Vaginal tablets; Withdrawal
- reasons for increased use of, 10-13
- when consultation for is advised, 27
- See also* Family planning
- Boll, Dr. Eleanor, 24
- Bossard, Dr. James, 24
- Bourne, Dr. Alec, 197-98
- Breast-feeding, possibility of pregnancy during, 75-76, 132-33
- Buxton, Dr. C. Lee, 235

## Caesarian section

- miniature, in abortion, 183-84
- sterilization at time of, 168
- Calendars for calculating "safe" periods, 80-84
- Cancer
  - as indication for abortion, 193, 198
  - not caused by birth control, 130
  - "pill" and, 72
  - pregnancy and, 25
- Castration, 150, 174
- Catholics, *see* Roman Catholics
- Cervical caps, 53-54, 297
  - effectiveness of, 54, 96
- Cervix
  - infertility and, 239, 247-49, 260
  - removal of, 167
- Change of life (menopause),
  - birth control at, 104, 133
- Childbirth
  - birth control after, 103, 132-33
  - diaphragm, 43, 46, 95
  - "pill," 75-76
  - rhythm method, 85
  - sterilization at, 168, 170
- Coitus interruptus, see* Withdrawal
- Colorado, abortion in, 189
- Condoms, 38-44
  - in collecting semen for analysis, 227-28
  - cost of, 103
  - described, 38, 39
  - effectiveness of, 38-39, 41-42, 96
  - extent of use of, 7-8, 39
  - FDA inspection of, 40-41

- last two years on shelf, 39
- list of brands, 296-97
- medical reasons for, 43-44
- for newlyweds, 100
- older men and, 95
- placement by wife of, 42
- production of, 39
- skin, 40, 41
- Connecticut, 152
  - legality of birth control in, 131
- Costs
  - of birth control materials, 103, 132
  - of donor's semen, 263
  - of sterilization, 173, 179
  - of vasectomy, 179
- Creams, contraceptive, *see* Jellies or creams
- Culdoscopy, 242, 245
- Czechoslovakia, safety of abortion in, 185

## D

- Diabetes and pregnancy, 25
- Diaphragms, 44-52, 297
  - cannot get "lost," 51
  - condoms sometimes preferred to, 43-44
  - described, 44
  - disadvantages of, 52, 95
  - effectiveness of, 45, 96
  - extent of use of, 7-8, 44
  - fitting of, 44-45, 47-48, 51-52
    - cost, 52, 103
    - engaged girls, 47-48, 99-100
  - insertion of, 45-47, 48
  - in menstruation 51
  - jelly or cream with, 49
  - removal of, 48, 49-50
- Disciples of Christ, 139

*Doornbos* vs. *Doornbos*, 272-73

Douches

- apparatuses for, 89-90
- for birth control, 89-91
  - effectiveness, 91, 96
  - extent of use, 7-8, 89
  - solutions for, 90
- diaphragms and, 49-50
- jellies and creams and, 60
- not needed for "feminine hygiene," 49-50
- vaginal tablets and, 64

## E

- Education
  - extent of practice of birth control and, 5
  - methods used by, 7-8
- Eggs, *see* Ova
- Ejaculation, *see* Penis; Sperm (semen)
- Embryo
  - defined, 219
  - See also* Pregnancy
- Endometrial biopsy, 238-39
- Enovid pill, 73-74, 302
  - See also* "Pill"
- Eugenic indications for abortion, 193-97
- Evangelical United Brethren Church, 139
- Fallopian tubes, 32-34
  - infections of, 247
  - obstruction caused by anxiety, 224
  - sterilization and, 165-66, 170-72
  - tests of, in infertility, 241-42

Family planning, 14-27  
 failures in, 106-14  
   ignorance, 109, 111  
   irregularity, 110-11, 113-14  
   lack of cooperation between husband and wife, 110, 112-14  
   major cause of, 104-5  
   medical profession's contribution to, 107-8  
 infertility and, 18  
 list of foreign agencies for, 305-17  
 list of U.S. centers for, 278-95  
 by newlyweds, 16-19  
 size of families  
   of children from large families, 22-24  
   medical reasons for limitation, 21, 24-26  
   number of children desired, 9  
   usual size of completed family, 21  
 spacing of pregnancies, 19-21  
 success in, 114-20  
   healthy attitudes toward sex, 115-17  
   partnership of husband and wife, 121-28  
 unplanned pregnancies  
   best prevention of, 97  
   number of, 9, 106-7  
*See also* Birth control

Female sexual organs, 30-31, 33  
 prerequisites in achieving parenthood, 220  
 tests of, in infertility, 237-44  
*See also* Fallopian tubes; Ova; Ovulation; Sterilization—of women; Uterus (womb)

"Feminine hygiene"  
 douching not needed for, 49

suppositories for, 66

Fetus  
 defined, 219  
*See also* Pregnancy

Finkbine, Mrs. Robert, 196-98

Foam, Vaginal, *see* Vaginal foam

GAF study, 4-8, 106-7, 162n., 163-64

German measles and pregnancy, 194-95

Great Britain, abortion laws in, 188, 197-98

Great Depression, 124

Growth of American Families Study, *see* GAF study

## H

Heart disease and pregnancy, 24-25  
 therapeutic abortion, 192, 193

*Hoch* vs. *Hoch*, 271

Hormones  
 ovulation and, 32  
 in test for ovulation, 240  
 in treatment for infertility, 233, 234, 245, 248

Human Betterment Association, 154

Hungary, safety of abortion in, 185

Husbands  
 change in attitudes of, 122-24  
 infertility of, *see* Infertility—of husband  
 older husbands, 95  
 in responsibility for birth control, 110, 112-14, 119, 124-28  
*See also* Male sexual organs; Penis; Sperm

Hysterectomy, 167  
 Hysterosalpingography, 241-42  
 Hysterotomy, 183-84  
     safety of, 185-86

## I

Income  
     chance of legal abortion and, 191  
     practice of birth control and, 5-6  
 Indiana, 270  
 Infertility, 213-50  
     biology of, 219-20  
     of husbands, 226-36  
         age and, 19  
         analysis of semen, 227-30, 232  
         facing the fact of infertility, 231-32  
         how often husband is cause, 218  
         mumps, 220  
         testicular biopsy, 232  
         treatment, 232-36  
     phases in treatment of, 217-21  
     postponement of children and, 18  
     psychological aspects of, 221-25, 235  
         pretreatment pregnancies, 221-22  
         "secondary," 213  
     sexual intercourse and, 221, 223-25  
         frequency, 235-36  
     when and where to seek medical help, 217-20  
     of wives, 237-50  
         tests for, 237-44  
         treatment of, 245-50  
 Intrauterine ring, *see* Ring

## J

Jellies or creams  
     cost of, 103  
     list of brands, 297-301  
     used alone, 57-61  
         allergy to, 60  
         application of, 58-60  
         douching and, 60  
         effectiveness of, 60-61, 96  
         leakage of, 60  
     used with diaphragm, 49, 96

## Jews

    abortion and, 201  
     artificial insemination and, 267-68  
     birth control attitudes of, 141-42  
     number of couples using birth control, 5  
     sterilization and, 161

## K

Kansas, 152  
 Kelly, Monsignor George A., 144-45, 159-60  
 Kidney disease and pregnancy, 25  
     therapeutic abortion, 192  
 Kinsey, Dr. Alfred, on number of abortions, 205-6

## L

Laidlaw, Dr. Robert W., 122, 126-27  
 Lambeth Conference  
     on birth control, 139-40  
     on sterilization, 160-61  
 Laparotomy, 242

## Leakage

of jellies and creams, 60

with vaginal foam, 63

of vaginal suppositories, 66

Leo XIII, Pope, 266

Levisohn, Dr. Arthur A., 274

Litmus-paper test, 85, 240

Los Angeles, Calif., legal abortion in, 190

Lutherans, 140, 268

## M

Male sexual organs, 28-30

prerequisites for achieving parenthood, 219-20

See also Penis; Sperm (semen); Testicles

Margaret Sanger Research Bureau, 84, 217

Marriage

responsibility for birth control in, 110, 112-14, 119, 124-28

See also Family planning; Infertility; Newlyweds

Maryland, abortion in, 189

Massachusetts, abortion in, 189

Masturbation for analysis of semen, 227-28

Menopause, birth control at, 104, 133

Menstrual cycle

biology of, 32-34

in calculations of rhythm method, 78-85

irregularity of, 85

permanent record of, 85

Menstruation

advantages of "pill" for, 76

diaphragm during, 51

on honeymoon, 99, 222

ovulation during, 224

sterilization and, 169, 171

Mental health

abortion and, 193-94, 199

birth control and, 26

Methodist Church, 138

Minnesota, 270

Miscarriage, 246-47, 249-50

Monthly period, see Menstruation

Mother fatigue, 20-21

Mount Sinai Hospital

abortion at, 193, 202

ring developed at, 55-56

sterilization at, 157-58

Mumps, 220

Muscular dystrophy and pregnancy, 26

Myomectomy, 246-47

## N

National Council of Churches of Christ in the U.S.A., 137-38, 161

Negroes

included in 1960 study, 4

practice of birth control by, 9

New Jersey, abortion in, 189

New Mexico, abortion in, 189

New York, 270

legal abortions in, 193

Newlyweds

birth control methods for, 43,

47-48, 57-58, 98-101

experimentation by, 94

family planning by, 16-19

Norinyl, 302

Norlestrin, 302

## O

Ohio, 270

Ohlson vs. Ohlson, 272

Oophorectomy, 167-68

Oracon, 302

Oregon, abortion in, 189



*Orford vs. Orford*, 270-71

Ortho-Novum pill, 70

See also "Pills"

Ova (eggs), 30-37

all present at birth, 30

fertilization of, 28, 34-37,  
228-29

size of, 32

twins and, 32, 37, 104

See also Fallopian tubes; Ovulation

Ovaries, removal of, 167-68

Ovulation

anxiety and, 224

calculation of, for rhythm  
method, 78-85

probably suppressed by "pill,"  
68-69

tests for, in infertility, 236-44

## P

Penis, 29-30

defects of, 254

retrograde ejaculation, 254,  
258

See also Condoms; Sperm  
(semen)

Pennsylvania, abortion in, 189

Pennsylvania, University of, 22-  
24

Peterson, Dr. James A., 222-23

Phoenix, Ariz., Finkbine case in,  
196-97

"Pills," 67-77

cost of, 103

effectiveness of, 71, 76, 96

Enovid, 70, 73, 302

extent of use of, 68

functioning of, 68-69

menstrual advantages of, 76

for newlyweds, 98-99

nursing and, 76

Ortho-Novum, 302

and possible pregnancy by  
older women, 72-73

procedure for taking, 69-71

safety of, 71-76

side-effects, 75, 76, 98-99

sizes of, 70

for treatment of infertility, 245

Pituitary gland, 32

in treatment for infertility,  
233, 246

Pius XI, Pope, 143

Pius XII, Pope, 143-44, 266-  
67

Planned parenthood, *see* Family  
planning

Planned Parenthood Federation  
of America, 52, 108, 217

approves "pill," 71

on birth control failure, 104-5

list of affiliated centers, 278-  
95

Plastic coil, *see* Ring

Polyps in womb, 243, 246

Pomeroy operation, 165-66, 170

Postcoital (p.c.) test, 243-44

Pregnancy

age of couple and, 18-19,  
216-17

Biology of, 28-37, 219-20

"false," 222

fear of, 121-22, 125-28

German measles in, 194-95

infertility pretreatment and,  
221-22

intercourse during, 104

medical reasons vs., 21, 24-26,  
192-94

menopause and, 104, 133

miscarriage in, 246-47, 249-  
50

"pill" and, 70-71

possible pregnancy in older  
women, 72-73

spacing of pregnancies, 19-21

thalidomide and, 196-97

**Pregnancy** (*Continued*)

X-ray therapy and, 195-96

*See also* Abortions; Artificial insemination; Childbirth; Family planning; Infertility; Stillbirths

Presbyterian Church, United, 138, 160, 268-69

Princeton University study, 6

Progesterone, 240

Protestant Episcopal Church, 139-40, 160, 268

**Protestants**

abortion and, 201

artificial insemination and, 268-69

birth control and, 136-41  
     methods preferred, 7-8  
     number of couples using, 5  
     sterilization and, 160-61

Psychiatric indications for abortion, 193-94, 199

Psychological factors in infertility, 221-25, 235

**Puerto Rico**

illegal abortions in, 187

sterilization in, 162

**R**

Rainwater, Dr. Lee, 108

Rape and abortion, 197-98, 199-200

**Religions**

abortion and, 200-2

artificial insemination and, 265-69

birth control and, 133-45  
     sterilization and, 159-61

*See also specific religions*

Reproduction, biology of, 28-37

**Rhythm method**

calculations for, 78-85

by brides-to-be, 100

calendar, 81-82

by mail, 84

special thermometers, 83-84, 302

effectiveness of, 96

extent of use of, 7-8

Roman Catholics and  
     declared licit by Church, 78, 143-44

loyalty of Catholics to, 8

priest's permission not  
     needed, 145

**Ring, 54-57**

disadvantages of, 55

plastic, 55-57, 97

**Roman Catholics**

abortion and, 200-1

approved method of collecting  
     semen from, 228

artificial insemination and,  
     265-67

birth control and

    Church's attitude, 143-45

    methods preferred by Catholics, 8-9

    number of wives using birth  
     control, 5

    rhythm method, 8, 78, 143-45

"Rubbers," *see* Condoms

*Rubella* and pregnancy, 194-95

Rubin test, 241

**S**

"Safe" days, calculation of, 78-85

Salpingectomy, 165-66, 170-72

Scar tissue in infertility, 220, 247

Schatkin, S. B., 273

Semen, *see* Sperm

**Sexual behavior**

- historical changes in, 10-12
- "pill" and, 75-76
- wealth and, 3-4

**Sexual intercourse**

- biology of, 28-37
  - condom and, 42-43
  - enjoyment of, 10-11
    - and success in birth control, 115-17
  - fear of pregnancy and, 121-22, 125-28
  - fertility and, 221, 223-25
    - frequency of intercourse, 235-36
  - ignorance about, 13, 109, 111
  - painful, 221
  - during pregnancy, 104
  - unhealthy attitudes toward, 109-10, 111-12, 118-19
  - withdrawal in, 87-88
- Sims, Dr. J. Marion, 254
- Sims-Huhner test, 243-44
- Southam, Dr. Anna L., 235
- Sperm (semen), 28
- analysis of, in infertility, 227-30, 232
  - concentrated in first few drops, 88, 258
  - fertilization of egg by, 36-37, 228-29
  - freezing of, 259
  - infertility and, 219
  - motility of, 228, 229-30, 258-59
  - normal count, 228
  - percentage of normal cells, 230
  - short life of, 36
    - and rhythm method, 78
  - speed of, 34-35
  - spinning of, 258-59
  - volume of ejaculation, 228
- See also* Artificial insemination

**Spermicides**

- for douching, 90
  - for vaginal sponges, 91
  - water, 42
- See also* Jellies or creams
- Sponge, vaginal, 91-92, 302
- effectiveness of, 92
- Sterilization, 149-79
- defined, 149-50
  - incidence of, 162-64
  - legal status of, 151-54
  - medical reasons for, 25-26, 155-57
  - of men, 174-79
    - cost of, 179
    - psychological effects, 177-78
    - and restoring fertility again, 178
  - not a desexing operation, 150-51
  - religious positions toward, 159-61
  - when family is completed, 157-59
  - of women, 165-73
    - cost of, 173
    - and restoring fertility again, 172
- Stillbirths
- chances of, for later children, 21
  - interval between births and, 20
- Stone, Dr. Abraham, 90, 221
- Strnad* vs. *Strnad*, 271-72
- Suicide, possibility of, and therapeutic abortion, 194
- Suppositories, vaginal, 65-66, 301
- effectiveness of, 66, 96
- Sweden
- indication for abortion in, 203
- Mrs. Finkbine in, 197

## T

Tablets, vaginal, *see* Vaginal tablets

"Taking care," 86

*See also* Withdrawal

Temperature

in determining fertility for

ovulation, 238

for rhythm method, 83-84,  
302

Testicles

biopsy of, 232-33

vasectomy of, 174-79

Testosterone, 234

Thalidomide and pregnancy,  
196-97

Thomas, Dr. Herbert, 217

Thyroid gland and infertility,  
240-41

Tuberculosis

fertility and, 220

pregnancy and, 25

therapeutic abortion, 192

Twins and triplets, 32, 37,  
104

## U

Underdeveloped countries

ring in, 55, 56

sterilization in, 162

United Church of Christ, 138-  
39, 161

Unplanned pregnancies

best prevention of, 97

number of, 9, 106-7

*See also* Family planning;  
Pregnancy

Urine analysis for infertility,  
240

Utah, 152

Uterus (womb), 30, 31, 33,  
37

fibroid tumors of, 246-47

polyps in, 243, 246

rare defects of, 247

removal of, 167

## V

Vaginal foam, 61-63, 301

cost of, 103

effectiveness of, 61-62,  
96

Vaginal smear, 239

Vaginal spasms (vaginismus),  
223, 254

Vaginal sponge, 91-92, 302

effectiveness of, 92

Vaginal suppositories, 65-66,  
301

effectiveness of, 66, 96

Vaginal tablets, 63-64, 301

cost of, 103

effectiveness of, 64, 96

Vaginitis. condom as protection  
vs., 43

Vasectomy, 174-79

cost of, 179

reversibility of, 178

Venereal diseases, 39, 43,  
220

Virginia, 270

sterilization law in, 152

## W

Washington, D.C., abortion in,  
189

Water as spermicide, 42

Withdrawal, 86-89

for analysis of semen, 227-  
28

effectiveness of, 96

extent of use of, 7, 87

problems of, 87-88, 104

**Wives**

- ability to have children and age of, 18-19
- employed
  - method of birth control and, 8-9
  - size of family and, 22
- in cooperation for birth control, 110, 112-14, 124-28
- ignorance by, 109, 111
- infertility of, *see* Infertility—of wives
- sex satisfaction of, 10-11
  - and success in birth control, 115-17
- unhealthy attitudes of, 109-10, 111-12, 118-19, 127

- who are uncomfortable about touching genitals, 43, 48, 52, 103, 127

*See also* Childbirth; Pregnancy

Womb, *see* Uterus

**X****X-rays**

- for diagnosis, 195-96, 242
- for treating infertility, 246

**Y**

"Yellow-babies," 255